

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD**

**SAN FRANCISCO BAY REGION**

**ORDER NO. R2-2003-0114**

**NPDES PERMIT NO. CA0038547**

**WASTE DISCHARGE REQUIREMENTS FOR:**

**DELTA DIABLO SANITATION DISTRICT**

**ANTIOCH, CONTRA COSTA COUNTY**

**Adopted on December 3, 2003**

**Effective: February 1, 2004**

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**SAN FRANCISCO BAY REGION**

**ORDER NO. R2-2003-0114**

**NPDES PERMIT NO. CA0038547**

**REISSUING WASTE DISCHARGE REQUIREMENTS FOR:**

**DELTA DIABLO SANITATION DISTRICT**

**ANTIOCH, CONTRA COSTA COUNTY**

**FINDINGS**

The California Regional Water Quality Control Board, San Francisco Bay Region, (the Board) finds that:

1. *Discharger and Permit Application.* The Delta Diablo Sanitation District (the Discharger), has applied to the Board for reissuance of waste discharge requirements and a permit to discharge treated wastewater to waters of the State and the United States under the National Pollutant Discharge Elimination System (NPDES).

**Facility Description**

2. *Facility Location, Service Area, Population, and Capacity.* The Discharger owns and operates a wastewater treatment plant (WWTP), located at 2500 Pittsburg-Antioch Highway, Antioch. The WWTP provides secondary treatment of wastewater from domestic and industrial sources from the cities of Antioch, Pittsburg, and Bay Point. The Discharger's service area has a present population of approximately 180,000. A location map of the Discharger's facilities is included as Attachment A of this Order. The WWTP has average dry weather design capacity to provide secondary level treatment for 16.5 million gallons per day (MGD) of wastewater. The annual average daily flow rate is approximately 14.2 MGD, and the maximum daily flow rate average has been 20.7 MGD. To address peak flows, the plant has a 2.2 million gallon (MG) flow equalization tank, 11 MG emergency retention pond, 1 MG of equalization storage capacity, and approximately 4 MG of storage at the pump stations.

The District has voluntarily implemented other programs that in addition to its wastewater treatment and recycled water facilities, reduces pollutant loading to the waters of the state. These programs include a household hazardous waste collection facility, a street sweeping program and a storm water inspection program.

3. *Recycled Water Facility.* Approximately 7.5 MGD of secondary level treated wastewater from the Discharger's WWTP undergoes tertiary treatment at their Recycle Water Facility (RWF). The product water from the RWF is primarily used as cooling water makeup for the Delta and Los Medanos Energy Centers (Energy Centers), with approximately one percent of that water sent for use by the local Parks and Recreation District (Parks). About 2 MGD of cooling tower blowdown from the Energy Centers is returned to the Discharger's WWTP and then combined with the plant's secondary level treated wastewater. The mixture of secondary level treated

wastewater and cooling tower blowdown undergoes chlorination and dechlorination, and then is discharged. A process flow diagram is included as Attachment B of this Order.

4. *Collection System.* The Discharger's wastewater conveyance systems transports wastewater flows from the Shore Acres, Bay Point, Pittsburg, and Antioch collection systems to the WWTP through a series of gravity interceptors, pump stations, and force mains that are designed to handle peak dry weather flows. The combined conveyance and collection systems include about 43 miles of major trunk sanitary sewer lines, four flow equalization storage facilities, and seven pump stations. Five pump stations have onsite emergency power systems, and of the other two stations, one has an auxiliary gravity flow line and the other has sufficient sewer line surcharge capacity (12 hours) to allow mobilization of portable pump systems. The discharger has an ongoing program for preventive maintenance and capital improvements for these sewer lines and pump stations in order to ensure adequate capacity and reliability of the collection system.
5. *Proposed Expansion.* The Discharger has plans to increase the permitted flow from 16.5 MGD to 22.7 MGD Average Daily Dry Weather Flow. To treat the additional wastewater, the Discharger indicates that it is considering expanding and/or upgrading the existing wastewater treatment plant in one or more phases by improving or adding preliminary, primary and/or secondary treatment capacity as presented in the Discharger's *Wastewater Treatment Master Plan*. The multimillion-dollar project should be completed by 2015. To support this request to increase the current permitted flow, the Discharger completed an Environmental Impact Report in April 1988.

This Order requires the Discharger to submit an Antidegradation Analysis and Engineering Report, which will evaluate treatment capacity, address mass increases of pollutants discharged, and propose additional units as necessary to enable adequate treatment. This analysis is necessary before the Board considers approving the increase, which may occur as a permit amendment or during the next permit reissuance.

## Treatment Process Description

6. *Treatment Process.* The Discharger's treatment process consists of screening, grit removal, primary clarification; biological treatment by trickling towers and/or aeration basins, and digesters; chlorination, and dechlorination. The water reclaimed for use by the Energy Centers and Parks also receives flocculation, sand filtration, and additional chlorination.
7. *Effluent Discharge Location and Description.* The treated, disinfected and dechlorinated effluent from the WWTP is discharged into New York Slough. The effluent is discharged through a deep water outfall equipped with a diffuser at latitude 38 degrees 01 minutes 40 seconds North and longitude 121 degrees 50 minutes 14 seconds West. The outfall is 400 feet from shore at approximately 46 feet below mean low level. The quality of the discharge is presented in the following table. The table reflects the monitoring data obtained during the years of 2000 through 2003.

Table 1. Effluent Discharge Description

Parameter	Median	Daily Maximum
Biochemical Oxygen Demand (BOD <sub>5</sub> ) (mg/L)	14	25
BOD <sub>5</sub> Monthly Removal (%)	95	92.4 <sup>(1)</sup>

Total Suspended Solids (TSS) (mg/L)	14.6	32.1
TSS Monthly Removal (%)	95.1	91.8 <sup>[1]</sup>
Settleable Solids (ml/l-hr)	ND*	0.1 <sup>[2]</sup>
Oil and Grease (mg/L)	ND*	19.7
Residual Chlorine (mg/L)	0.0	11.2 <sup>[3]</sup>
pH <sup>[5]</sup> (s.u.)	7.5	7.8
Total coliform <sup>[6]</sup> (mpn/100 ml)	7	175
Arsenic (µg/L)	ND*	12
Cadmium (µg/L)	ND*	0.4 <sup>[4]</sup>
Chromium III (µg/L)	1.6	2.9
Chromium VI (µg/L)	ND*	2.9
Copper (µg/L)	7.0	12.5
Lead (µg/L)	ND*	2.6 <sup>[4]</sup>
Mercury (µg/L)	0.0116	0.029
Nickel (µg/L)	6.2	14
Selenium (µg/L)	1	4
Silver (µg/L)	ND*	0.8 <sup>[4]</sup>
Zinc (µg/L)	ND*	22
Cyanide (µg/L)	ND*	6
Chloroform (µg/L)	0.55	0.8
Chloromethane (µg/L)	ND*	0.7
Dibromochloromethane (µg/L)	ND*	2.9 <sup>[8]</sup>
1,4-Dichlorobenzene	0.5	0.7
Toluene (µg/L)	ND*	0.7
Phenol (µg/L)	ND*	34
Acenaphthylene (µg/L)	ND*	0.2 <sup>[7]</sup>
Aldrin (µg/L)	ND*	0.017 <sup>[8]</sup>
Pyrene (µg/L)	ND*	0.3 <sup>[8]</sup>
Halomethanes (µg/L)	0.5	0.9
Bromodichloromethane (µg/L)	0.8	1.1
Bromoform (µg/L)	ND*	17 <sup>[8]</sup>
Bromomethane (µg/L)	ND*	1.7
Bis(2-ethylhexyl)phthalate	ND*	46

\*ND = Non-detection

<sup>[1]</sup> These values represent the minimum of monthly removal percentages for BOD and TSS.

<sup>[2]</sup> There were only two detected values for settleable solids; both were 0.1 mg/L.

<sup>[3]</sup> Of 913 samples, residual chlorine was detected on four occasions, ranging from 0.3 mg/L to 11.2 mg/L.

<sup>[4]</sup> This represents a 'Detected, but Not Quantified' value.

<sup>[5]</sup> This represents the minimum value for pH.

<sup>[6]</sup> This represents the maximum of the 5-sample moving median reported values.

<sup>[7]</sup> Acenaphthylene was observed twice, both at 0.2 µg/L.

<sup>[8]</sup> This constituent was only detected in one sample.

8. This discharge was previously governed by Waste Discharge Requirements Order No. 93-142 adopted by the Board on November 19, 1993.
9. The U.S. Environmental Protection Agency (U.S. EPA) and the Board have classified this discharge as a major discharge.

10. *Solids Treatment, Handling and Disposal.* Sludge is thickened by dissolved air flotation (gravity belt thickener) thickeners, anaerobically digested, and dewatered by centrifuge prior to disposal at an authorized sanitary landfill (and/or land application).

### **Treatment Plant Storm Water Discharges**

11. *Regulations.* Federal Regulations for storm water discharges were promulgated by the U.S. EPA on November 19, 1990. The regulations [40 CFR Parts 122, 123, and 124] require specific categories of industrial activity (industrial storm water) to obtain an NPDES permit and to implement Best Available Technology Economically Achievable (BAT) and Best Conventional Pollutant Control Technology (BCT) to control pollutants in industrial storm water discharges.
12. *Exemption from Coverage under Statewide Storm Water General Permit.* The State Water Resources Control Board's (the State Board's) statewide NPDES permit for storm water discharges associated with industrial activities (NPDES General Permit CAS000001- the General Permit) was adopted on November 19, 1991, amended on September 17, 1992, and reissued on April 17, 1997. The WWTP is not required to be covered under the General Permit because all storm water from within the WWTP area is contained in the Discharger's emergency retention basin and returned to plant tower mixing chamber to be treated along with regular wastewater flows to the WWTP.

### **Regional Monitoring Program**

13. On April 15, 1992, the Board adopted Resolution No. 92-043 directing the Executive Officer to implement a Regional Monitoring Program for the San Francisco Bay. Subsequent to a public hearing and various meetings, Board staff requested major permit holders in this region, under authority of section 13267 of California Water Code, to report on the water quality of the San Francisco Bay Estuary. These permit holders, including the Discharger, responded to that request by participating in a collaborative effort, through the San Francisco Estuary Institute (formerly the Aquatic Habitat Institute). This effort is known as the San Francisco Bay Regional Monitoring Program for Trace Substances (the RMP). The Discharger has agreed to continue to participate in the RMP, which includes collection of data on pollutants and toxicity in water, sediment and biota of the estuary.

### **Applicable Plans, Policies and Regulations**

14. Water quality objectives (WQOs), water quality criteria (WQC), effluent limitations, and calculations contained in this Order are based on the statutes, documents, and guidance detailed in Section IV of the attached Fact Sheet, which is incorporated here by reference.

### **Beneficial Uses**

15. Beneficial uses for the Sacramento-San Joaquin Delta (hereinafter referred to as the Delta) receiving water, as identified in the Board's June 21, 1995 *Water Quality Control Plan San Francisco Bay Basin (Region 2)* (the Basin Plan) (Table 2-7), and based on known uses of the receiving waters in the vicinity of the discharge, are:

- Agricultural Supply



- Groundwater Recharge
- Industrial Service Supply
- Municipal and Domestic Supply
- Navigation
- Industrial Process Supply
- Water Contact Recreation
- Non-contact Water Recreation
- Ocean Commercial and Sport Fishing
- Wildlife Habitat
- Preservation of Rare and Endangered Species
- Fish Migration
- Fish Spawning
- Estuarine Habitat

Contiguous water bodies of the Delta in the vicinity of the discharge include freshwater, brackish, and saltwater sloughs such as New York Slough. Beneficial uses specific to these areas are not identified in the Basin Plan. The Basin Plan's tributary rule applies the beneficial uses of identified water bodies to its tributaries.

## **Bases for Effluent Limitations**

### **General Basis**

#### **Applicable Water Quality Objectives/Criteria**

16. The WQOs and WQC applicable to the receiving waters for this discharge are from the Basin Plan, the U.S. EPA's May 18, 2000 *Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California* (the California Toxics Rule, or the CTR), and the U.S. EPA's *National Toxics Rule* (the NTR).
  - a. The Basin Plan specifies numeric WQOs for 10 priority toxic pollutants, as well as narrative WQOs for toxicity and bioaccumulation in order to protect beneficial uses. The pollutants for which the Basin Plan specifies numeric objectives are arsenic, cadmium, chromium (VI), copper in freshwater, lead, mercury, nickel, silver, zinc, and cyanide (see also c., below). The narrative toxicity objective states in part "[a]ll waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms." The bioaccumulation objective states in part "[c]ontrollable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered." Effluent limitations and provisions contained in this Order are designed to implement these objectives, based on available information.
  - b. The CTR specifies numeric aquatic life criteria for 23 priority toxic pollutants and numeric human health criteria for 57 priority toxic pollutants. These criteria apply to inland surface waters and enclosed bays and estuaries such as here, except that where the Basin Plan's Tables 3-3 and 3-4 specify numeric objectives for certain of these priority toxic pollutants, the Basin Plan's numeric objectives apply over the CTR (except in the South Bay south of the Dumbarton Bridge).

- c. The NTR established numeric aquatic life criteria for selenium, numeric aquatic life and human health criteria for cyanide, and numeric human health criteria for 34 toxic organic pollutants for waters of San Francisco Bay upstream to, and including, Suisun Bay and the Delta. This includes the receiving water for this Discharger.
17. Where numeric objectives have not been established or updated in the Basin Plan, 40 CFR Part 122.44(d) specifies that water quality-based effluent limitations (WQBELs) may be set based on U.S. EPA criteria, supplemented where necessary by other relevant information, to attain and maintain narrative WQOs to fully protect designated beneficial uses. The Fact Sheet for this Permit discusses the specific bases and rationales for effluent limitations, and is incorporated as part of this Order.

#### **Basin Plan Receiving Water Salinity Policy**

18. The Basin Plan states that the salinity characteristics (i.e., freshwater vs. saltwater) of the receiving water shall be considered in determining the applicable WQOs. Freshwater objectives apply to discharges to waters both lying outside the zone of tidal influence and having salinities lower than 5 parts per thousand (ppt) at least 75 percent of the time. Saltwater objectives shall apply to discharges to waters with salinities greater than 5 ppt at least 75 percent of the time. For discharges to waters with salinities in between the two categories or tidally influenced freshwaters that support estuarine beneficial uses, the objectives shall be the lower of the salt or freshwater objectives, based on ambient hardness, for each substance.

#### **CTR Receiving Water Salinity Policy**

19. The CTR states that the salinity characteristics (i.e., freshwater vs. saltwater) of the receiving water shall be considered in determining the applicable WQC. Freshwater criteria shall apply to discharges to waters with salinities equal to or less than one ppt at least 95 percent of the time. Saltwater criteria shall apply to discharges to waters with salinities equal to or greater than 10 ppt at least 95 percent of the time in a normal water year. For discharges to water with salinities in between these two categories, or tidally influenced freshwaters that support estuarine beneficial uses, the criteria shall be the lower of the salt or freshwater criteria, (the latter calculated based on ambient hardness), for each substance.

#### **Receiving Water Salinity**

20. The receiving water for the subject discharge is New York Slough and is classified as estuarine. Board staff evaluated February 1998 through December 2002 salinity data for New York Slough that was obtained 100 feet downstream from the discharge. These data indicate the receiving water is estuarine by the CTR. While the receiving water may meet the Basin Plan's numeric definition for freshwater, this receiving water falls under the Basin Plan's narrative definition for estuarine water. New York Slough is tidally influenced, and the Delta and Suisun Bay are specifically defined as estuarine in the CTR. Furthermore, the Delta and Suisun Bay are identified as supporting estuarine habitat in the Basin Plan. The reasonable potential analysis (RPA) and effluent limitations in this Order are based on the more stringent of fresh and saltwater objectives/criteria.

### Receiving Water Hardness

21. Some WQOs/WQC are hardness dependent. In determining the WQOs/WQC for this Order, the Board used a hardness of 68 mg/L, which is the adjusted geometric mean value of 1478 hardness values obtained from the waters of San Joaquin River, which flows to New York Slough, located upstream approximately one and one-fourth miles east of the discharge during May 1995 through December 2001.

### Technology-Based Effluent Limitations

22. Permit effluent limitations for conventional pollutants are technology-based. Technology-based effluent limitations are put in place to ensure that full secondary treatment is achieved by the wastewater treatment facility, as required under 40 CFR Part 133.102. Effluent limitations for these conventional pollutants are defined by the Basin Plan. Further, these limitations are the same as in the prior permit for the following constituents:

- Biochemical oxygen demand (BOD),
- BOD percent removal,
- Total suspended solids (TSS),
- TSS percent removal,
- pH,
- Settleable matter,
- Oil and grease, and
- Total chlorine residual.

### Water Quality-Based Effluent Limitations

23. Toxic substances are regulated by water quality based effluent limitations (WQBELs) derived from the Basin Plan, Tables 3-3 and 3-4, the U.S. EPA's May 18, 2000 *Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California* (the California Toxics Rule, or CTR), the U.S. EPA's *National Toxics Rule* (NTR), and/or best professional judgment (BPJ) as defined in Section IV of the attached Fact Sheet. Further details about the effluent limitations contained in this Order are given below and in the attached Fact Sheet.

- a. Maximum Daily Effluent Limitations (MDELs) are used in this permit to protect against acute water quality effects. It is impracticable to use weekly average limitations to guard against acute effects. Although weekly averages are effective for monitoring the performance of biological wastewater treatment plants, the MDELs are necessary for preventing fish kills or mortality to aquatic organisms.

- b. NPDES regulations, the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (the State Implementation Plan, or SIP), and U.S. EPA's Technical Support Document (TSD) provide the basis to establish MDELs:

- (1) NPDES regulations at 40 CFR Part 122.45(d) state:

"For continuous discharges all permit effluent limitations, standards, and prohibitions, including those necessary to achieve water quality standards, shall *unless impracticable* be stated as:

- (a) Maximum daily and average monthly discharge limitations for all discharges other than publicly owned treatment works (POTWs); and
  - (b) Average weekly and average monthly discharge limitations for POTWs." (Emphasis added.)
- (2) The SIP (page 8, Section 1.4) requires QBELs be expressed as maximum daily effluent limitations (MDELs) and average monthly effluent limitations (AMELs).
- (3) The TSD (page 96) states a maximum daily limitation is appropriate for two reasons:
- (a) The basis for the 7-day average for POTWs derives from the secondary treatment requirements. This basis is not related to the need for assuring achievement of water quality standards.
  - (b) The 7-day average, which could comprise up to seven or more daily samples, could average out peak toxic concentrations and therefore the discharge's potential for causing acute toxic effects would be missed. A maximum daily limitation would be toxicologically protective of potential acute toxicity impacts.

#### **Receiving Water Ambient Background Data Used in Calculating QBELs**

24. Ambient background values are used in the RPA and in the calculation of effluent limitations. For the RPA, ambient background concentrations are the observed maximum water column concentrations. The SIP states that for calculating QBELs, ambient background concentrations are either the observed maximum ambient water column concentrations, or, for criteria/objectives intended to protect human health from carcinogenic effects, the arithmetic mean of observed ambient water concentrations. Under the RMP, the Sacramento River station has been sampled since the mid 1990's for most of the inorganic (CTR constituent numbers 1-15) and some of the organic (CTR constituent numbers 16 - 126) toxic pollutants. Not all the constituents listed in the CTR were analyzed by the RMP during this time. These data gaps are addressed by the Board's August 6, 2001, letter titled *Requirement for Monitoring of Pollutants in Effluent and Receiving Water to Implement New Statewide Regulations and Policy* (hereinafter referred to as the Board's August 6, 2001 Letter) - available online, (see Standard Language And Other References Available Online below). The Board's August 6, 2001 Letter formally requires the Discharger (pursuant to Section 13267 of the California Water Code) to conduct ambient background monitoring and effluent monitoring for those constituents not currently sampled by the RMP and to provide this technical information to the Board. On May 16, 2003, a group of several San Francisco Bay Region dischargers (known as the Bay Area Clean Water Agencies, or BACWA) submitted a collaborative receiving water study, entitled the *San Francisco Bay Ambient Water Monitoring Interim Report*. This report addresses monitoring results from sampling events in the years 2002 and 2003 for the remaining priority pollutants not monitored by the RMP. The RPA was conducted and the QBELs were calculated using RMP data from the years 1993 through 2000 for inorganics and organics at the Sacramento River station, and additional data from the BACWA San

*Francisco Bay Ambient Water Monitoring Interim Report for the Sacramento River RMP station.*

**Constituents Identified in the 303(d) List**

25. On June 6, 2003, the U.S. EPA approved a revised list of impaired water bodies prepared by the State (the 303(d) list). The State had prepared the 303(d) list pursuant to provisions of Section 303(d) of the federal Clean Water Act requiring identification of specific water bodies where it is expected that water quality standards will not be met after implementation of technology-based effluent limitations on point sources. The pollutants impairing the Sacramento-San Joaquin Delta include chlordane, DDT, diazinon, dieldrin, dioxin and furan compounds, mercury, nickel, total PCBs, PCBs (dioxin like), and selenium.

**Dilution and Assimilative Capacity**

26. In response to the State Board's Order No. 2001-06, Board staff have evaluated the assimilative capacity of the receiving water for 303(d)-listed pollutants for which the subject discharge has reasonable potential to cause or contribute to an excursion above a water quality standard. The evaluation included a review of RMP data, effluent data, and WQOs. From this evaluation, it is determined that the assimilative capacity is highly variable due to the complex hydrology of the receiving water. Therefore, there is uncertainty associated with the representative nature of the appropriate ambient background data to conclusively quantify the assimilative capacity of the receiving water. Pursuant to Section 1.4.2.1 of the SIP, "dilution credit may be limited or denied on a pollutant-by-pollutant basis..."
- a. For certain bioaccumulative pollutants, based on BPJ, dilution credit is not included in calculating the final WQBELs. The Board placed selenium, mercury, and PCBs on the CWA Section 303(d) list. The U.S. EPA added dioxins and furans compounds, chlordane, nickel, dieldrin, and 4,4'-DDT on the CWA Section 303(d) list. Dilution credit is not included for the following pollutants: mercury, dieldrin, 4,4'-DDE, and dioxins and furans. The following factors suggest that there is no more assimilative capacity in the Bay for these pollutants.
- i. San Francisco Bay fish tissue data shows that these pollutants, except for selenium, exceed screening levels. The fish tissue data are contained in "Contaminant Concentrations in Fish from San Francisco Bay 1997" May 1997. Denial of dilution credits for these pollutants is further justified by fish advisories to the San Francisco Bay. The Office of Environmental Health and Hazard Assessment (OEHHA) performed a preliminary review of the data from the 1994 San Francisco Bay pilot study, "Contaminated Levels in Fish Tissue from San Francisco Bay." The results of the study showed elevated levels of chemical contaminants in the fish tissues. Based on these results, OEHHA issued an interim consumption advisory covering certain fish species from the bay in December 1994. This interim consumption advice was issued and is still in effect due to health concerns based on exposure to sport fish from the bay contaminated with mercury, PCBs, dioxins, and pesticides (e.g., DDT).
- b. Furthermore, Section 2.1.1 of the SIP states that for bioaccumulative compounds on the 303(d) list, the Board should consider whether mass-loadings should be limited to current levels. The Board finds that mass loading limitations are warranted for certain

bioaccumulative compounds on the 303(d) list for the receiving waters of this discharge. This is to ensure that this discharge does not contribute further to impairment of the narrative objective for bioaccumulation.

- c. For non-bioaccumulative constituents, a conservative allowance of 10:1 dilution for discharges to the receiving waters is necessary for protection of beneficial uses. This is based on SIP provision in Section 1.4.2.1, which allows the Board to further limit dilution credits. The derivation of the dilution credit is outlined below.
  - i. A far-field background station is appropriate because the receiving waterbody is a very complex estuarine system with highly variable and seasonal upstream freshwater inflows and diurnal tidal saltwater inputs.
  - ii. Due to the complex hydrology of the Sacramento-San Joaquin Delta, a mixing zone cannot be accurately established.
  - iii. The SIP allows limiting a mixing zone and dilution credit for persistent pollutants (e.g., copper, nickel, and lead).

The main justification for using a 10:1 dilution credit is uncertainty in accurately determining ambient background and uncertainty in accurately determining the mixing zone in a complex estuarine system with multiple wastewater discharges. The detailed rationale is described in the Fact Sheet.

#### **Total Maximum Daily Loads and Waste Load Allocations**

27. The Board plans to adopt Total Maximum Daily Loads (TMDLs) for pollutants on the 303(d) list in Sacramento-San Joaquin Delta within the next ten years, with the exception of dioxin and furan compounds. The Board defers development of the TMDLs for dioxin and furan compounds to the U.S. EPA. Future review of the 303(d) list for the Sacramento-San Joaquin Delta may result in revision of the schedules and/or provide schedules for other pollutants.
28. The TMDLs will establish waste load allocations (WLAs) for point sources and load allocations (LAs) for non-point sources, and will result in achieving the water quality standards for the waterbodies. Final WQBELs for 303(d)-listed pollutants in this discharge will be based on WLAs contained in the respective TMDLs.
29. The Board's strategy to collect water quality data and to develop TMDLs is summarized below:
  - a. *Data collection* – The Board has given the dischargers the option to collectively assist in developing and implementing analytical techniques capable of detecting 303(d)-listed pollutants to at least their respective levels of concern or WQOs/WQC. This collective effort may include development of sample concentration techniques for approval by the U.S. EPA. The Board will require dischargers to characterize the pollutant loads from their facilities into the water-quality limited waterbodies. The results will be used in the development of TMDLs, and may be used to update or revise the 303(d) list and/or change the WQOs/WQC for the impaired waterbodies including the Sacramento-San Joaquin Delta.

- b. *Funding mechanism* – The Board has received, and anticipates continuing to receive, resources from federal and state agencies for TMDL development. To ensure timely development of TMDLs, the Board intends to supplement these resources by allocating development costs among dischargers through the RMP or other appropriate funding mechanisms.
30. Pursuant to Section 2.1.1 of the SIP, “the compliance schedule provisions for the development and adoption of a TMDL only apply when: (a) the Discharger requests and demonstrates that it is infeasible for the Discharger to achieve immediate compliance with a CTR criterion; and (b) the Discharger has made appropriate commitments to support and expedite the development of the TMDL. In determining appropriate commitments, the RWQCB should consider the Discharger’s contribution to current loadings and the Discharger’s ability to participate in TMDL development.”

As further described below, the Discharger demonstrated that it is infeasible to achieve compliance for certain pollutants. The Discharger agreed to assist the Board in TMDL development through active participation in and contribution to the Clean Estuary Partnership (CEP). The Board adopted Resolution No. 01-103, on September 19, 2001, authorizing the Executive Officer of the Board to enter into a Memorandum of Understanding with BACWA and other parties to accelerate the development of Water Quality Attainment Strategies (WQAS), including TMDLs, for the San Francisco Bay/Sacramento-San Joaquin Delta and its tributaries.

#### **Interim Limitations and Compliance Schedules**

31. Until final WQBELs or WLAs are adopted for 303(d)-listed pollutants, state and federal anti-backsliding and antidegradation policies and the SIP, require that the Board include interim effluent limitations for them. The interim effluent limitations will be the lower of the following:

- current performance; or
- the previous permit’s limitations, unless anti-backsliding conditions are met.

In addition to interim concentration limitations, this Order establishes interim performance-based mass limitations to maintain the discharge’s current mass loadings of mercury, a 303(d)-listed bioaccumulative pollutant that has reasonable potential to cause or contribute to an exceedance of an applicable water quality standard. This interim performance-based mass limitation is based on recent discharge data.

32. The SIP and the Basin Plan authorize compliance schedules in a permit if an existing discharger cannot comply immediately with a new and more stringent effluent limitation. Compliance schedules for limitations derived from CTR or the NTR WQCs are based on Section 2.2 of the SIP, and compliance schedules for limitations derived from Basin Plan WQOs are based on the Basin Plan. Both the SIP and the Basin Plan require the Discharger to demonstrate the infeasibility of achieving immediate compliance with the new limitation to qualify for a compliance schedule. The SIP and Basin Plan require the following documentation to be submitted to the Board to support a finding of infeasibility:
- Descriptions of diligent efforts the Discharger has made to quantify pollutant levels in the discharge, sources of the pollutant in the waste stream, and the results of those efforts;

- Descriptions of source control and/or pollution minimization efforts currently under way or completed;
  - A proposed schedule for additional or future source control measures, pollutant minimization or waste treatment; and
  - A demonstration that the proposed schedule is as short as practicable.
33. On June 17, 2003, the Discharger submitted a revised feasibility study (hereinafter referred to as the Final Feasibility Study) asserting it is infeasible to immediately comply with the final WQBELs calculated according to SIP Section 1.4 for copper, lead, mercury, nickel, cyanide, bis(2-ethylhexyl)phthalate, aldrin, 4,4'-DDE, dieldrin, and dioxin TEQ. Board staff conducted comparative and/or statistical analysis of recent WWTP performance data for these pollutants, as further detailed in later findings under the heading **Development of Specific Effluent Limitations** and also in Section V.D.7, Tables D and E of the attached Fact Sheet. Based on these analyses for copper, nickel, mercury, cyanide, bis(2-ethylhexyl)phthalate, aldrin, 4,4'-DDE and dieldrin, the Board concurs that it is infeasible to achieve immediate compliance. For lead, however, the Board finds that it is feasible for the Discharger to comply with final WQBELs.
34. For limitations based on CTR or NTR criteria (copper, cyanide, bis(2-ethylhexyl)phthalate, aldrin, 4,4'-DDE and dieldrin) this Order establishes a 5-year compliance schedule as allowed by the CTR and SIP. The Basin Plan provides for a 10-year compliance schedule (mercury and nickel) to implement measures to comply with new standards as of the effective date of those standards. This provision has been construed as authorizing compliance schedules for new interpretations of existing standards (such as the numeric WQOs specified in the Basin Plan) resulting in more stringent limitations than those in the previous permit. Due to the adoption of the SIP, the Board has newly interpreted these objectives. As a result of applying the SIP methodologies, the effluent limitations for some pollutants are more stringent than those in the prior permit, and compliance schedules may be appropriate for the new limitations for those pollutants. The Board may take appropriate enforcement actions if interim limitations and requirements are not met.

This Order establishes compliance schedules that extend beyond one year for copper, nickel, mercury, cyanide, bis(2-ethylhexyl)phthalate, aldrin, 4,4'-DDE, dieldrin, and dioxin TEQ. Pursuant to the SIP and 40 CFR 122.47, the Board shall establish interim numeric limitations and interim requirements to control the pollutant. This Order establishes interim limitations for these pollutants based on the previous permit limitations or existing plant performance. This Order also establishes interim requirements in a provision for development and/or improvement of a Pollution Prevention and Minimization Program to reduce pollutant loadings to the WWTP, and for submittal of annual reports on this Program.

Since the compliance schedule for CTR criteria and Basin Plan WQOs exceed the length of the permit (4 years and 11 months), the actual final WQBELs for these pollutants will likely be based on either the Site Specific Objective (SSO) or TMDLs/WLAs as described in other findings specific to each of the pollutants.



### **Antibacksliding and Antidegradation**

35. *Antidegradation and Anti-backsliding.* The limitations in this Order are in compliance with the Clean Water Act Section 402(o) prohibition against establishment of less stringent WQBELs for the following reasons:

- (1) For impairing pollutants, the revised final limitations will be in accordance with TMDLs and WLAs once they are established;
- (2) For non-impairing pollutants, the final limitations are/will be consistent with current State WQOs/WQC;
- (3) Antibacksliding does not apply to the interim limitations established under previous Orders;
- (4) If antibacksliding policies apply to interim limitations under 402(o)(2)(c), a less stringent limitation is necessary because of events over which the Discharger has no control and for which there is no reasonable available remedy, and/or new information is available that was not available during previous permit issuance.

The interim limitations in this permit are in compliance with antidegradation requirements and meet the requirements of the SIP because the interim limitations hold the Discharger to performance levels that will not cause or contribute to water quality impairment or further water quality degradation.

### **Specific Basis**

#### **Reasonable Potential Analysis**

36. Title 40 CFR Part 122.44(d) (1) (i) requires permits to include WQBELs for all pollutants which have the reasonable potential to cause or contribute to an exceedence of an applicable water quality standard (that have Reasonable Potential). Using the methods prescribed in Section 1.3 of the SIP, Board staff analyzed the effluent data to determine if the discharge from Outfall E-001-D has a reasonable potential to cause or contribute to an excursion above a State water quality standard ("Reasonable Potential Analysis" or "RPA"). For all parameters that have Reasonable Potential, numeric WQBELs are required. The RPA compares the effluent data with numeric and narrative WQOs in the Basin Plan and numeric WQC from the U.S. EPA Gold Book, the NTR, and the CTR.

#### **Reasonable Potential Methodology**

37. a. The RPA was based on monthly effluent monitoring data from January 2000 through February 2003 for metals, and August 2000 through February 2003 for certain organic constituents.

The RPA identifies the observed MEC in the effluent for each pollutant, based on effluent concentration data.

There are three triggers in determining Reasonable Potential:

- 1) The first trigger is activated if the MEC is greater than the lowest applicable WQO ( $MEC \geq WQO$ ), which has been adjusted, if appropriate, for pH, hardness, and translator data. If the MEC is greater than the adjusted WQO, then that pollutant has reasonable potential, and a WQBEL is required.
- 2) The second trigger is activated if the observed maximum ambient background concentration (B) is greater than the adjusted WQO ( $B > WQO$ ), and either:
  - i) the MEC is less than the adjusted WQO ( $MEC < WQO$ ), or
  - ii) the pollutant was not detected in any of the effluent samples and all of the detection levels are greater than or equal to the adjusted WQO.

If B is greater than the adjusted WQO, then a WQBEL is required.

- 3) The third trigger is activated if a review of other information determines that a WQBEL is required to protect beneficial uses, even though both MEC and B are less than the WQO/WQC. A limitation may be required under certain circumstances to protect beneficial uses.
- b. Table 2, below, depicts the results of the RPA. The RPA findings, numeric final WQBELs where required, feasibility determinations, and interim limitations and compliance schedules – as appropriate - are set out in more detail below.

#### RPA Determinations.

38. The MECs, WQOs/WQC, bases for the WQOs/WQC, background concentrations used and Reasonable Potential conclusions from the RPA are listed in the following table for all constituents analyzed. The RPA results for some of the constituents in the CTR were not determined because of the lack of an objective/criteria or effluent data. (Further details on the RPA can be found in the Fact Sheet.) Based on the RPA methodology in the SIP, the following constituents have been found to have reasonable potential to cause or contribute to an excursion above WQOs/WQC: copper, lead, mercury, nickel, cyanide, bis(2-ethylhexyl)phthalate, aldrin, 4,4'-DDE, dieldrin, and dioxin TEQ.

Table 2. Summary of Reasonable Potential Analysis Results

Constituent <sup>1</sup>	WQO/ WQC ( $\mu\text{g/L}$ )	BASIS <sup>2</sup>	MEC ( $\mu\text{g/L}$ )	Maximum Ambient Background Conc. ( $\mu\text{g/L}$ )	Reasonable Potential
Antimony	4,300	CTR (#1)	0.8	0.337	No
Arsenic	36	BP	12	3.65	No
Cadmium	0.84	BP	0.04	0.06	No
Chromium	11	BP	2.6	Not Available (NA)	No
Copper	3.73	CTR (#6)	12.1	9.9	Yes
Lead	1.95	BP	0.39	2.35	Yes <sup>3</sup>
Mercury*	0.025	BP	0.029	0.0377	Yes
Nickel*	7.1	BP	14	21.8	Yes
Selenium*	5.0	NTR	4	0.3	No
Silver	2.09	BP	0.8	0.0566	No
Thallium	6.3	CTR (#12)	<0.03	0.14	No

Zinc	58	BP	22	18.2	No
Cyanide	1.0	NTR	6	0.5	Yes
TCDD TEQ*	$1.4 \times 10^{-8}$	BP	$6.47 \times 10^{-8}$	$4.8 \times 10^{-8}$	Yes
Bis(2-ethylhexyl)Phthalate	5.9	CTR (#68)	46	26.8	Yes
Aldrin	0.00014	CTR (#102)	0.017	NA	Yes
4,4'-DDE*	0.00059	CTR (#109)	<0.01	0.00092	Yes <sup>3</sup>
Dieldrin*	0.00014	CTR (#111)	<0.01	0.00038	Yes <sup>3</sup>
Tributyltin	0.010	BP	0.008	NA	No
Total PAHs	15.0	BP	0.20	0.0333	No
CTR #s 17-126 except 68, 102, 109, and 111	Various or NA	CTR	Non-detect, less than WQO, or no WQO	Less than WQO or Not Available	No or Undetermined <sup>4</sup>

Footnotes for Table 2:

- [1] \* Indicates constituents on 303(d) list, dioxin applies to Toxicity Equivalent Factors (TEQ) of 2,3,7,8-TCDD.
- [2] BP = Basin Plan;  
CTR = California Toxics Rule  
NTR = National Toxics Rule
- [3] Lead, 4,4'-DDE and Dieldrin: RPA = Yes, based on B>WQO or WQC.
- [4] Undetermined due to lack of objective/criteria, and/or lack of effluent data (See Fact Sheet Table B for full RPA results).

### RPA Results for Impairing Pollutants

39. While TMDLs and WLAs are being developed, interim concentration limitations are established in this permit for 303(d)-listed pollutants that have reasonable potential to cause or contribute to an excursion above the water quality standard. In addition, mass limitations are required for bioaccumulative 303(d)-listed pollutants (i.e., mercury) that can be reliably detected. Constituents on the 303(d) list for which the RPA determined a need for effluent limitations are mercury, nickel, 4,4'-DDE (chemically linked to DDT), dieldrin, and dioxin TEQ. Final determination of Reasonable Potential for other constituents identified on the 303(d) list could not be performed due to lack of available effluent data, or lack of an established WQO or WQC.

### RPA Considerations for Specific Pollutants

40. *Polynuclear Aromatic Hydrocarbons (PAHs)*. The previous permit included a monthly average WQBEL of 0.028 µg/L for the sum of 13 PAH compounds. This Order implements the policy and regulations of the CTR and SIP in regard to PAHs, i.e., Reasonable Potential is determined for individual PAHs and total PAH limitations (16 PAH compounds) in this Order. Self-monitoring data for the period from August 2000 through February 2003 indicate acenaphthylene was detected once; however it does not have a CTR WQC. Concentrations of the remaining PAHs were reported with nondetects, and the detection limits ranged from <0.05 to <5. Background concentrations were all below the WQC. The Discharger is required to collect additional data on individual PAH levels in the effluent and the receiving water under the provisions of the Board's August 6, 2001 Letter. When these data become available, the Board will reevaluate Reasonable Potential for individual PAH compounds and determine the need for effluent limitations, if appropriate.
41. *Dioxin TEQ*.

- (1) The CTR establishes a numeric human health WQC of 0.14 picograms per liter (pg/L) for 2,3,7,8-tetrachlorinated dibenzo-p-dioxin (2,3,7,8-TCDD) based on consumption of aquatic organisms.
- (2) The preamble of the CTR states that California NPDES permits should use toxicity equivalents (TEQs) where dioxin-like compounds have Reasonable Potential with respect to narrative criteria. In U.S. EPA's National Recommended Water Quality Criteria, December 2002, U.S. EPA published the 1998 World Health Organization Toxicity Equivalence Factor (TEF)<sup>1</sup> scheme. Additionally, the CTR preamble states U.S. EPA's intent to adopt revised WQC guidance subsequent to its health reassessment for dioxin-like compounds.
- (3) The SIP applies to all toxic pollutants, including dioxins and furans. The SIP requires a limitation for 2,3,7,8-TCDD, if a limitation is necessary, and requires monitoring for a minimum of 3 years by all major NPDES dischargers for the other sixteen dioxin and furan compounds.
- (4) The Basin Plan contains a narrative WQO for bio-accumulative substances:

"Many pollutants can accumulate on particulates, in sediments, or bio-accumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered."

This narrative WQO applies to dioxin and furan compounds, based in part on the scientific community's consensus that these compounds associate with particulates, accumulate in sediments, and bioaccumulate in the fatty tissue of fish and other organisms.

- (5) The U.S. EPA's 303(d) listing determined that the narrative objective for bio-accumulative pollutants was not met because of the levels of dioxins and furans in the fish tissue.
- (6) The Discharger has monitored for dioxins and furans. Self-monitoring data indicate dioxins and furans were sampled twice, in the years 2000 and 2001. Two dioxin and furan compounds have been detected in the effluent during this time period and the 2,3,7,8 TCDD TEQ levels exceed the WQC. As shown in Table 2, both effluent data and 2002 through 2003 ambient receiving water quality data provided in the May 16, 2003 BACWA report show 2,3,7,8 TCDD TEQ levels exceeding the WQC; therefore, there is Reasonable Potential for 2,3,7,8 TCDD TEQ.
- (7) During both monitoring occurrences, the Discharger collected and analyzed one liter samples for dioxin and furan compounds, as a result, most values were reported as nondetects. The detection limits, however, range from 1.21 pg/L to 103 pg/L, which are

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<sup>1</sup> The 1998 World Health Organization scheme includes TEFs for dioxin-like PCBs. Since dioxin-like PCBs are already included within "Total PCBs", for which the CTR has established a specific standard, dioxin-like PCBs are not included in this Order's version of the TEF scheme.

significantly higher than the final WQBELs. For this reason, this Order requires the Discharger to investigate the feasibility and reliability of increasing sample volumes to lower the detection limits for dioxin and furan compounds. This will involve studies to validate four-liter samples that will lower the detection limits. The Discharger may collaborate with other dischargers in this Region on these studies. During the term of the studies, compliance will be determined using standard one-liter samples using an analysis method that is at a minimum capable of achieving one-half the U.S. EPA method 1613 MLs. Compliance using a four-liter sample will not be required until after this method is validated by the Board's Executive Officer, or U.S. EPA (See Provision 3 of this Order for further details.)

42. *4,4'-DDE and Dieldrin.*

- (1) Board staff could not determine MECs for 4,4'-DDE and dieldrin because the effluent data consisted of all non detect values, and all of the detection limits were reported higher than the WQC (Section 1.3 of the SIP). Board staff conducted the RPA by comparing the WQC with RMP ambient background concentration data gathered using research-based sample collection, concentration, and analytical methods. This analysis concluded that the background concentrations are greater than the WQC, and therefore, 4,4'-DDE and dieldrin have Reasonable Potential, and numeric WQBELs are required.
- (2) The current 303(d) list includes the Bay as impaired for dieldrin and DDT; 4,4'-DDE is chemically linked to the presence of DDT. The Board intends to develop a TMDL that will lead towards overall reduction of dieldrin and 4,4'-DDE. The WQBELs specified in this Order may be changed to reflect the WLAs from this TMDL. Studies are ongoing to investigate the feasibility and reliability of different methods of increasing sample volumes to lower the detection limits for pesticides. If analytical methodologies improve and the detection levels decrease to a point that show discharge concentrations above the limitations in this Order, the Board will re-evaluate the Discharger's feasibility to comply with the limitations and determine the need for a compliance schedule and interim performance-based limitations at that time. Since dieldrin and 4,4'-DDE are both bioaccumulative and on the 303(d) list due to fish tissue concentrations, there is no assimilative capacity, and no dilution credit was allowed in the final limitation calculations.

43. *Other Organics.*

The Discharger has performed sampling and analysis for the organic constituents listed in the CTR. This data set was used to perform the RPA. The full RPA is presented as an attachment in the Fact Sheet. In some cases, Reasonable Potential cannot be determined because detection limits are higher than the lowest WQC, and/or ambient background concentrations are not available. The Discharger will continue to monitor for these constituents in the effluent and the receiving water using analytical methods that provide the best feasible detection limits. When additional data become available, further RPA will be conducted to determine whether to add numeric effluent limitations to the Order or to continue monitoring.

44. *Effluent Reasonable Potential Monitoring.*

This Order does not include effluent limitations for constituents that do not show a Reasonable Potential, but continued monitoring for these pollutants is required as described in the Board's

August 6, 2001 Letter. If concentrations of these constituents increase significantly, the Discharger will be required to investigate the source of the increases and establish remedial measures, if the increases result in a reasonable potential to cause or contribute to an excursion above the applicable WQO/WQC.

45. *Permit Reopener.*

This Order includes a reopener provision to allow numeric effluent limitations to be added or deleted for any constituent that exhibits or does not exhibit, respectively, Reasonable Potential. The Board will make this determination based on monitoring results.

**Development of Specific Effluent Limitations**

46. **Copper**

- a. *RPA Results.* This Order establishes effluent limitations for copper because the 12.1 µg/L MEC exceeds the governing WQC of 3.7 µg/L, demonstrating Reasonable Potential by Trigger 1, in Finding 37 of this Order. The governing WQC is based on the CTR's WQC of 3.1 µg/L for chronic saltwater protection as modified by using the CTR's default copper translator of 0.83.
- b. *WQBELs.* The copper WQBELs calculated according to SIP procedures are 3.5 µg/L average monthly and 4.8 µg/L maximum daily.
- c. *Immediate Compliance Infeasible.* The Final Feasibility Study asserts that the Discharger cannot immediately comply with these WQBELs. Board staff conducted a statistical analysis of the Discharger's self-monitoring effluent data from January 2000 through February 2003 (See Section V.D.7 and Table D of the attached Fact Sheet for detailed results of the statistical analysis), and based upon this analysis, the Board concurs that it is infeasible to achieve immediate compliance.
- d. *Interim Performance-Based Limitation (IPBL).* Because it is infeasible for the Discharger to immediately comply with the copper WQBELs, an interim limitation is required. Historically, IPBLs have been referenced to the 99.87<sup>th</sup> percentile value of recent performance data. Board staff conducted a statistical analysis of recent WWTP effluent data. This analysis indicates that the 99.87<sup>th</sup> percentile value of the WWTPs' recent copper effluent data is 16 µg/L, which is more stringent than the 78 µg/L daily average limitation developed for Order No. 93-142. Therefore, the 16 µg/L IPBL is established in this Order.
- e. *Plant Performance and Attainability with IPBL.* Since all effluent copper values were below the 16 µg/L IPBL, it is feasible for the WWTP to comply with the IPBL. In the Final Feasibility Study, the Discharger has proposed additional pollution prevention measures to reduce copper concentration levels in the discharge. Additionally the Discharger may implement a sampling plan, as specified in Provision 13 of this Order to develop information that may be used to establish WQBELs based on dissolved criteria for copper.
- f. *Term of IPBL.* The copper IPBL shall remain in effect until January 31, 2009. However, during the next permit reissuance, or based on additional data or SSOs, the Board may re-evaluate the copper IPBL and compliance deadline.

47. **Lead**

- a. *RPA Results.* This Order establishes effluent limitations for lead because the ambient background level of 2.35 µg/L exceeds the governing 4-day average WQO of 1.95 µg/L, demonstrating Reasonable Potential by Trigger 2, in Finding 37 of this Order.
- b. *WQBELs.* The lead WQBELs calculated according to SIP procedures are 1.6 µg/L average monthly and 3.2 µg/L maximum daily.
- c. *Immediate Compliance Feasible.* The Final Feasibility Study asserts the Discharger cannot immediately comply with the lead WQBELs. During the period January 2000 through February 2003, the WWTP's self-monitoring effluent data only contained five detected values out of 31 samples, and therefore the limited detected data preclude any meaningful statistical evaluation to confirm feasibility. However, the MEC in the WWTP's self-monitoring effluent data for lead was 0.39 µg/L, which does not exceed the final WQBELs (see Section V.D.7, Table E of the attached Fact Sheet for detailed results of the analysis). Based on the foregoing, as permitted by the SIP, Section 1.3, Step 7, final WQBELs for lead are established in this Order to protect beneficial uses.

48. **Mercury**

- a. *RPA Results.* This Order establishes effluent limitations for mercury because both the 0.029 µg/L MEC and 0.0377 µg/L ambient background values exceed the governing WQO of 0.025 µg/L, demonstrating Reasonable Potential by Triggers 1 and 2, in Finding 37 of this Order. The governing WQO is based on the Basin Plan's WQO of 0.025 µg/L as a 4-day average for the chronic protection of fresh water aquatic life.
- b. *WQBELs.* The mercury WQBELs calculated according to SIP procedures are 0.02 µg/L average monthly and 0.05 µg/L maximum daily.
- c. *Immediate Compliance Infeasible.* The Final Feasibility Study asserts the Discharger cannot immediately comply with the mercury WQBELs. Board staff statistically analyzed the Discharger's effluent data from January 2000 through December 2003 (see Section V.D.7 and Table D of the attached Fact Sheet for detailed results of the statistical analysis). Based on this analysis, the Board concurs that it is infeasible to achieve immediate compliance.
- d. *IPBL.* Because it is infeasible for the Discharger to immediately comply with the mercury WQBELs, an interim limitation is required. Board staff considered a 2001 staff report that identified two statistically derived interim performance-based effluent limitations for mercury, 0.023 µg/L for advanced secondary treatment plants and 0.087 µg/L for secondary treatment plants. The WWTP is considered a secondary treatment plant because it only has capacity to provide advanced treatment for the portion of the wastewater used by the Energy Centers, and therefore the applicable interim performance-based effluent limitation is 0.087 µg/L. The previous permit includes a monthly average limitation of 0.084 µg/L, which is more stringent than the statistically derived IPBL of 0.087 µg/L. Therefore the IPBL is established in this Order as 0.084 µg/L.
- e. *Plant Performance and Attainability with IPBL.* During the period January 2000 through February 2003, the Discharger's effluent concentrations ranged from < 0.0165 to the MEC

of 0.029 µg/L (59 samples). All of the 59 samples were below the existing mercury limitation of 0.084 µg/L, and therefore, it is feasible for the Discharger to comply with the IPBL. Additionally, in the Final Feasibility Study, the Discharger has proposed additional pollution prevention measures to reduce mercury concentration levels in the discharge.

- f. *Term of IPBL.* The mercury IPBL shall remain in force until March 31, 2010. However, during the next permit reissuance, or based on additional data or the WLA in the TMDL, the Board may re-evaluate the mercury IPBL and compliance deadline.
- g. *Interim Mercury Mass-Emission Limitation.* In addition to the concentration-based mercury IPBL, this Order establishes an interim mercury mass-based effluent limitation of 0.038 kg/month. This limitation is calculated based on the concentration-based average monthly effluent limitation (0.02 µg/L) newly calculated according to the SIP and the dry weather design capacity of the WWTP (16.5 mgd), and applies only during the dry weather season (May through October). The previous permit, Order No. 93-142, did not include mass-based effluent limitations for mercury. The mass-based effluent limitation in this Order, 0.038 kg/month, maintains current loadings and is consistent with state and federal antidegradation and antibacksliding requirements.
- h. *Additional Mercury Studies.* The Board has determined that the mass-based limitation calculated as described in the previous finding is appropriate for this Discharger for the following reasons: (1) recent monitoring data show very low levels of mercury in the discharge, well below the applicable WQC, (2) the interim concentration limitation, which is based on the previous permit's monthly average limitation and is more stringent than the statistically derived interim performance-based effluent limitations identified in a 2001 staff report, will ensure that mercury levels remain low in the discharge, (3) the Discharger will continue to identify and, to the extent feasible, address mercury sources under its pollution prevention program, and (4) the interim mass limitation based on the design flow will preclude any significant increases in mass loadings from the WWTP. Overall, the Discharger already has minimized mercury influent loadings to the treatment plant and provided for a high level of mercury removal in the treatment process. The Board anticipates that it is unlikely that the TMDL will require additional reductions in mercury loadings beyond current treatment levels. Yet, to complement the dry weather interim mass limitation, the Discharger has proposed an aggressive outreach and collection program that by March 2007 has the goal of increasing collection of fluorescent tubes by 5 times from current levels. This should benefit overall mercury loadings to the Bay by reducing tube breakage during household garbage collection, which contributes mercury to storm runoff and the atmosphere. Provision 6 is included in this Order requiring the Discharger to implement an aggressive Mercury Source Reduction Program throughout its service area.
- i. *Expected Final Mercury Limitations.* The interim limitations will be revised to be consistent with the WLA assigned in the adopted mercury TMDL. While the TMDL is being developed, the Discharger will comply with the IPBL and interim mass emission limitation to cooperate in maintaining current ambient receiving water conditions. Based on the June 6, 2003, Board staff report titled *Mercury in the San Francisco Bay: Total Maximum Daily Load Project Report*, municipal sources are a very small contributor of the mercury load to the Bay. Because of this, it is unlikely that the TMDL will require reduction efforts beyond the source controls required by this permit.



49. **Nickel**

- a. *RPA Results.* This Order establishes effluent limitations for nickel because the 14 µg/L MEC exceeds the governing WQC of 7.1 µg/L, demonstrating Reasonable Potential by Trigger 1, in Finding 37 of this Order. The governing WQC is based on the Basin Plan's WQC of 7.1 µg/L as a 24-hour average for the chronic protection of saltwater aquatic life.
- b. *WQBELs.* The WQBELs calculated according to SIP procedures are 6 µg/L average monthly and 11 µg/L maximum daily.
- c. *Immediate Compliance Infeasible.* The Final Feasibility Study asserts that the Discharger cannot immediately comply with these WQBELs. Board staff conducted a statistical analysis of the Discharger's self-monitoring effluent data from January 2000 through February 2003 (See Section V.D.7 and Table D of the attached Fact Sheet for detailed results of the statistical analysis), and based upon this analysis, the Board concurs that it is infeasible to achieve immediate compliance.
- d. *IPBL.* Because it is infeasible for the Discharger to immediately comply with the nickel WQBELs, an interim limitation is required. Historically, IPBLs have been referenced to the 99.87<sup>th</sup> percentile value of recent performance data. Board staff conducted a statistical analysis of recent WWTP effluent data. This analysis indicates the 99.87<sup>th</sup> percentile value of the WWTPs' recent nickel effluent data is 20 µg/L, which is more stringent than the 71 µg/L daily average limitation developed for Order No. 93-142. Therefore, the 20 µg/L IPBL is established in this Order.
- e. *Plant Performance and Attainability with IPBL.* Since all effluent nickel values were below the 20 µg/L IPBL, it is feasible for the WWTP to comply with the IPBL. In the Final Feasibility Study, the Discharger has proposed additional pollution prevention measures to reduce nickel concentration levels in the discharge. Additionally the Discharger may implement a sampling plan, as specified in Provision 13 of this Order to develop information that may be used to establish WQBELs based on dissolved criteria for nickel.
- f. *Term of IPBL.* The nickel IPBL shall remain in effect until March 31, 2010. However, during the next permit reissuance, or based on additional data or SSOs, the Board may re-evaluate the nickel IPBL and compliance deadline.

50. **Cyanide**

- a. *RPA Results.* This Order establishes effluent limitations for cyanide because the 6 µg/L MEC exceeds the governing WQC of 1 µg/L, demonstrating Reasonable Potential by Trigger 1, in Finding 37 of this Order. The governing WQC is based on the NTR's salt water Criterion Chronic Concentration (CCC) of 1 µg/L.
- b. *WQBELs.* The WQBELs calculated according to SIP procedures are 2.7 µg/L average monthly and 5.5 µg/L maximum daily.
- c. *Immediate Compliance Infeasible.* The Final Feasibility Study asserts that the Discharger cannot immediately comply with these WQBELs. During the period January 2000 through February 2003, the Discharger's effluent monitoring data resulted in three

detected values out of 32 samples of cyanide. The Board finds this small number of detected data precludes any meaningful statistical evaluation. The MEC at 6 µg/L during this period exceeds the WQBELs. The Board, therefore, considers the occurrence of the MEC value above the WQBELs to confirm infeasibility. In the Final Feasibility Study, the Discharger has committed to participating in a special study that is a region-wide effort to develop a site-specific objective for cyanide (see Provision 2 of this Order).

- d. *IPBL*. Because the limited detected data preclude any meaningful statistical evaluation, interim performance-based limitations for cyanide were not attained. Nevertheless, the previous permit includes a cyanide effluent limitation of 25 µg/L, which is established in this Order as the interim effluent limitation.
- e. *Plant Performance and Attainability with Interim Effluent Limitation*. Since all effluent cyanide values during the period January 2000 through February 2003 were below the 25 µg/L interim effluent limitation, it is feasible for the WWTP to comply. In the Final Feasibility Study, the Discharger committed to participating in a special study that is a region-wide effort to develop a site-specific objective for cyanide (see Provision 2 of this Order).
- f. *Term of Interim Effluent Limitation*. The cyanide interim effluent limitation shall remain in force until January 31, 2009. Cyanide is a regional problem, and a national research study sponsored by the Water Environment Research Foundation (WERF) is exploring its potential sources. The outcome of this research may affect the Discharger's limits in the future. Therefore, based on this new data or SSOs, or during the next permit reissuance, the Board may re-evaluate the cyanide interim effluent limitation and compliance deadline.

51. **Bis(2-Ethylhexyl)Phthalate**

- a. *RPA Results*. This Order establishes effluent limitations for bis(2-ethylhexyl)phthalate because the 46 µg/L MEC exceeds the governing WQC of 5.9 µg/L, demonstrating Reasonable Potential by Trigger 1, in Finding 37 of this Order. The governing WQC is based on the CTR's WQC of 5.9 µg/L for the protection of human health.
- b. *WQBELs*. The bis(2-ethylhexyl)phthalate WQBELs calculated according to SIP procedures are 5.9 µg/L average monthly and 11.8 µg/L maximum daily.
- c. *Immediate Compliance Infeasible*. The Final Feasibility Study asserts that the Discharger cannot immediately comply with these WQBELs. During the period January 2000 through February 2003, the Discharger's effluent monitoring data resulted in two detected values out of six samples of bis(2-ethylhexyl)phthalate. The Board finds this small number of detected data precludes any meaningful statistical evaluation, and therefore feasibility is determined using MEC. The MEC at 46 µg/L during this period exceeds the WQBELs. The Board, therefore, considers the occurrence of the MEC value above the WQBELs to confirm infeasibility. In the Final Feasibility Study, the Discharger also has proposed to conduct a special study for bis(2-ethylhexyl)phthalate.
- d. *IPBL*. Because the limited detected data preclude any meaningful statistical evaluation, interim performance-based limitations for bis(2-ethylhexyl)phthalate were not attained.

Since the previous permit did not include limitations for bis(2-ethylhexyl)phthalate, this Order establishes the interim effluent limitation at the MEC of 46 µg/L as maximum daily.

- e. *Plant Performance and Attainability with Interim Effluent Limitation.* Since the interim effluent limitation for bis(2-ethylhexyl)phthalate is the MEC, it is feasible for the WWTP to comply with the interim effluent limitation. Additionally, the Discharger will conduct a special study for bis(2-ethylhexyl)phthalate that will investigate whether laboratory sampling, sample handling, and sample analysis of bis(2-ethylhexyl)phthalate properly reflect the Discharger's final effluent (See Provision 4 of this Order).
- f. *Term of Interim Effluent Limitation.* The bis(2-ethylhexyl)phthalate interim effluent limitation shall remain in force until January 31, 2009. The Discharger has proposed to conduct a bis(2-ethylhexyl)phthalate study, and the outcome of this study may affect the interim effluent limitations. Based on this new data, or during the next permit reissuance, the Board may re-evaluate the bis(2-ethylhexyl)phthalate interim effluent limitation and compliance deadline.

## 52. Aldrin

- a. *RPA Results.* This Order establishes limitations for aldrin because the 0.017 µg/L MEC exceeds the governing WQC of 0.00014 µg/L, demonstrating Reasonable Potential by Trigger 1, in Finding 37 of this Order. The governing WQC is based on the CTR's WQC of 0.00014 µg/L for the protection of human health.
- b. *WQBELs.* The aldrin WQBELs calculated according to SIP procedures are 0.00014 µg/L average monthly and 0.00028 µg/L maximum daily.
- c. *Immediate Compliance Infeasible.* The Final Feasibility Study asserts that the Discharger cannot immediately comply with these WQBELs. During the period January 2000 through February 2003, the Discharger's effluent monitoring data resulted in one detected value out of seven samples of aldrin. The Board finds this small number of detected data precludes any meaningful statistical evaluation, and therefore feasibility is determined using MEC. The MEC at 0.017 µg/L during this period exceeds the WQBELs. The Board, therefore, considers the occurrence of the MEC value above the WQBELs to confirm infeasibility. In the Final Feasibility Study, the Discharger has committed to implement additional pollution prevention measures to reduce aldrin concentration levels in the discharge.
- d. *IPBL.* The limited monitoring data preclude a meaningful statistical determination of a IPBL. Interim effluent limitations are given for aldrin since the Discharger has demonstrated and the Board verified that it is infeasible for the Discharger to achieve immediate compliance with the final effluent limitations (AMEL of 0.00014 µg/L and MDEL of 0.00028 µg/L) newly calculated according to the SIP. This is because detection limits are above the final effluent limits. The previous permit contains a final monthly average effluent limitation for aldrin of 0.0013 µg/L, which is well below currently approved analytical detection limits (no interim limit was given in the previous permit because the Board and EPA used the ML to determine that there was compliance with the final limit, which approach a court has since rejected). Since the Discharger cannot immediately comply with the final limit, the interim limitation is set at current performance at 0.005 µg/L, which is the level where the Discharger can demonstrate

compliance. This is not inconsistent with anti-backsliding requirements because: 1) the proposed final WQBEL set forth in the findings is more stringent than the final WQBEL specified in the previous permit, 2) as set forth in the State Board Order WQ 2001-06, antibacksliding does not apply to the interim limitations in a compliance schedule and the proposed interim *performance-based* limit is not "comparable" to the prior *water quality*-based limit of the previous permit, and 3) even if antibacksliding and antidegradation policies apply to interim limitations under CWA 402(o)(2)(c), a less stringent limitation is necessary because of factors over which the Discharger has no control -- specifically, the limits of analytical technology.

- e. *Plant Performance and Attainability with IPBL.* During the period from 2000 through 2002, aldrin was measured only once in the WWTP's effluent at 0.017 µg/L, which exceeds the IPBL. However, in the Final Feasibility Study, the Discharger proposed to implement additional pollution prevention measures to reduce aldrin concentration levels in the discharge.
- f. *Term of IPBL.* The aldrin IPBL shall remain in force until January 31, 2009. However, during the next permit reissuance, the Board may re-evaluate the aldrin IPBL and compliance deadline.

53. **4,4'-DDE and Dieldrin**

- a. *RPA Results.* This Order establishes limitations for 4,4'-DDE and dieldrin because the ambient background concentrations (0.00092 µg/L and 0.00038 µg/L, respectively) exceed the governing WQC of 0.00059 µg/L and 0.00014 µg/L, respectively, demonstrating Reasonable Potential. The governing WQC are based on the CTR's WQC of 0.00059 µg/L and 0.00014 µg/L, respectively, for the protection of human health. The criteria are well below the MLs of 0.05 µg/L and 0.01 µg/L identified in Appendix 4 of the SIP.
- b. *WQBELs.* The 4,4'-DDE and dieldrin WQBELs calculated according to SIP procedures are 0.00059 µg/L average monthly and 0.00118 µg/L maximum daily for 4,4'-DDE, and 0.00014 µg/L average monthly and 0.00028 µg/L maximum daily for dieldrin.
- c. *Immediate Compliance Infeasible.* The Final Feasibility Study asserts that the Discharger cannot immediately comply with these WQBELs. During the period January 2000 through February 2003, the Discharger's effluent monitoring data are all non-detects. The Board finds this limited detected data precludes any meaningful statistical evaluation for 4,4'-DDE and dieldrin. The Board, therefore, considers the occurrences of all the effluent samples as non-detects and the detection limits far above the WQBELs to confirm infeasibility (For further details refer to the following finding and Section V.D.7 of the attached Fact Sheet). In the Final Feasibility Study, the Discharger has proposed additional pollution prevention measures to address 4,4'-DDE and dieldrin that may be in the discharge.
- d. *IPBL.* Because the monitoring data consisted of all non detect values, a meaningful statistical determination of a IPBL could not be conducted. Interim effluent limitations are given for these pollutants because it is infeasible for the Discharger to achieve immediate compliance with the final WQBELs (AMEL of 0.00059 µg/L and MDEL of 0.00118 µg/L for 4,4'-DDE and AMEL of 0.00014 µg/L and MDEL of 0.00028 µg/L for dieldrin) newly

calculated in accordance with the SIP. This is because all effluent samples are non-detect and the detection limits are far above the WQBELs. The previous permit does not include a limitation for 4,4'-DDE, but it does specify a monthly average effluent limitation for dieldrin of 0.0014 µg/L, which is well below the detection limit for dieldrin (no interim limit was given in the previous permit for dieldrin because the Board and EPA used the ML to determine that there was compliance with the final limit, which approach a court has since rejected). Since the Discharger cannot immediately comply with the final limits, the interim limitations are set at current performance, which are the levels at which the Discharger can demonstrate compliance. The interim limitations are as follows: 4,4'-DDE is 0.05 µg/L, and dieldrin is 0.01 µg/L. With respect to dieldrin, this is not inconsistent with anti-backsliding requirements because: 1) the proposed final WQBEL set forth in the findings is more stringent than the limitation specified in the previous permit, 2) as set forth in the State Board Order WQ 2001-06, antibacksliding does not apply to the interim limitations in a compliance schedule and the interim *performance-based* limit here for dieldrin is not "comparable" to the prior *water quality*-based limit of the previous permit, and 3) even if antibacksliding and antidegradation policies apply to interim limitations under CWA 402(o)(2)(c), a less stringent limitation is necessary because of events over which the Discharger has no control -- specifically, the limits of analytical technology.

- e. *Plant Performance and Attainability with Interim Effluent Limitation.* During the period 2000 through 2002, neither 4,4'-DDE or dieldrin were detected in the WWTP's effluent, and therefore it is feasible for the Discharger to comply. In the Final Feasibility Study, the Discharger proposed to implement additional pollution prevention measures to reduce 4,4'-DDE or dieldrin concentration levels in the discharge.
- f. *Term of Interim Effluent Limitation.* The 4,4'-DDE and dieldrin IPBL shall remain in force until January 31, 2009. However, during the next permit reissuance, or based on additional data or the WLAs in the TMDL, the Board may re-evaluate the 4,4'-DDE and dieldrin IPBL and compliance deadline.

#### 54. Dioxins and Furans

- a. *RPA Results.* This Order establishes limitations for 2,3,7,8 TCDD TEQ because 2,3,7,8 TCDD TEQ levels in the effluent and receiving water exceed the Basin Plan's narrative bioaccumulative objective translated from the WQC of 0.013 pg/L for 2,3,7,8 TCDD TEQ.
- b. *WQBELs.* The dioxin and furans WQBELs calculated using SIP procedures are 0.013 pg/L average monthly and 0.026 pg/L maximum daily.
- c. *Immediate Compliance Infeasible.* The Final Feasibility Study asserts that the Discharger cannot immediately comply with these WQBELs. During the years 2000 and 2001, self-monitoring data indicate dioxins and furans were sampled twice. The Board finds the limited detected data observed within this period to preclude any meaningful statistical evaluation. However, two dioxins were detected out of the seventeen congeners at levels above the WQBELs. The Board, therefore, considers the occurrences of detected values above the WQBELs to confirm infeasibility. In the Final Feasibility Study, the Discharger proposes to participate in, or support, the Association of Bay Area Governments Dioxins Task Force. In addition, the Discharger will conduct a lower detection limit study, which

is further detailed in the following finding, under the heading *Plant Performance and Attainability with Interim Effluent Limitation*, and Provision 3 of this Order.

- d. *IPBL*. Because the limited monitoring data preclude a meaningful statistical determination of a IPBL, interim performance-based limitations for dioxin and furans were not attained. Nevertheless, the previous permit includes a monthly average effluent limitation for 2,3,7,8 TCDD TEQ of 0.13 pg/L, which is established in this Order as the interim effluent limitation.
- e. *Plant Performance and Attainability with Interim Effluent Limitation*. The interim limitation is set at the existing monthly average effluent limitation. During the years 2000 and 2001, self-monitoring data indicate dioxins and furans were sampled twice. Two dioxin and furan compounds, 1,2,3,4,6,7,8-HeptaCDD and OctaCDD, out of the 17 congeners were detected in the one-liter effluent samples. Applying the toxic equivalency factors and summing these values yields a TEQ of 0.065 pg/L using zeroes for non-detects. This is below the interim limitation of 0.13 pg/L, which means that it is feasible for the Discharger to comply with the IPBL. This Order requires the Discharger to undertake an effort to lower detection limits possibly resulting in more congeners being detected. Since zeros are used in this feasibility analysis, the Board will re-evaluate feasibility if the lower detection limits reveal the presence of previously undetected congeners.
- f. *Term of Interim Effluent Limitation*. The 2,3,7,8 TCDD TEQ IPBL shall remain in force until January 31, 2014. The Discharger will conduct a dioxin and furan lower detection limit study, and the outcome of this study may affect the IPBL. Based on this new data or the WLA in the TMDL, or during the next permit reissuance, the Board may re-evaluate the 2,3,7,8 TCDD TEQ IPBL and compliance deadline.

### **Whole Effluent Acute Toxicity**

- 55. This Order includes effluent limitations for whole-effluent acute toxicity. Compliance evaluation is based on 96-hour flow-through bioassays using the latest EPA protocols.
- 56. The previous Permit specified acute toxicity testing requirements and limitations, which required testing of two species, stickleback and fathead minnow. During the period 2000 through 2002, the Discharger's eleven sample median survival of both species was between 95 and 100 percent, and the 90<sup>th</sup> percentile survival for both species was between 80 and 100 percent. Since the stickleback test cannot be performed using the latest EPA protocols, this Order requires the test species to be fathead minnow and rainbow trout. As provided in the Basin Plan and as allowed in this Order, the Executive Officer may consider allowing compliance monitoring with only one fish species, either fathead minnow or rainbow trout, if the Discharger runs concurrent tests, which may be conducted as static renewal tests, to determine the most sensitive species.

### **Whole Effluent Chronic Toxicity**

- 57. *Test Species*. In March 1998, the Discharger monitored their WWTP's effluent using critical life stage toxicity tests on *Selenastrum capricornutum* (green alga), *Ceriodaphnia dubia* (crustacean), and *Pimephales promelas* (larval fathead minnows) to generate information on

toxicity test species sensitivity. The test results indicated that the effluent sample was not toxic to *Selenastrum capricornutum* (green alga) or *Pimephales promelas* (larval fathead minnows); however, at 100% effluent, there was toxicity observed with *Ceriodaphnia dubia* (crustacean) with respect to growth. Based on the foregoing results, the Discharger selected *Ceriodaphnia dubia* (crustacean) as the most sensitive bioassay species to use for routine bioassay testing.

58. *Permit Requirements.* Under the previous permit, the Discharger was not required to conduct chronic toxicity monitoring; however, in accordance with U.S. EPA and State Board Task Force guidance, and based on BPJ, this permit includes requirements for chronic toxicity monitoring based on the Basin Plan narrative toxicity objective. This permit includes the Basin Plan narrative toxicity objective as the applicable effluent limitation, implemented via monitoring with numeric values as "triggers" to initiate accelerated monitoring and to initiate a chronic toxicity reduction evaluation (TRE) as necessary. The permit requirements for chronic toxicity are also consistent with the SIP requirements.
59. *Permit Reopener.* The Board will consider amending this permit to include numeric toxicity limitations if the Discharger fails to aggressively implement all reasonable control measures included in its approved TRE workplan, following detection of consistent significant non-artifactual toxicity.

### **Bacteria Limitations**

60. This Order retains the same total coliform limitations included in the previous Order, which are based on Table 4-2 of the Basin Plan. This Order also allows the Discharger to conduct a bacteriological assessment study as specified in Provision 14 of this Order, to evaluate the feasibility of using an alternate bacteria limitation, and grants a short-term exception to the total coliform limits during the study.

### **Pollution Prevention Program**

61. The Discharger has established a Pollution Prevention Program under the requirements specified by the Board.
- a. Section 2.4.5 of the SIP specifies under what situations and for which priority pollutant(s) (i.e., reportable priority pollutants) the Discharger shall be required to conduct a Pollutant Minimization Program in accordance with Section 2.4.5.1.
  - b. There may be some redundancy between the Pollution Prevention Program and the Pollutant Minimization Program requirements.
  - c. Where the two programs' requirements overlap, the Discharger is allowed to continue/modify/expand its existing Pollution Prevention Program to satisfy the Pollutant Minimization Program requirements.
  - d. For constituents identified under Effluent Limitations, Section B, the Discharger will conduct appropriate source control or pollutant minimization measures that are consistent with its approved Pretreatment and Pollution Prevention Programs. For constituents with compliance schedules under this permit, the applicable source control/pollutant minimization requirements of Section 2.1 of the SIP will also apply.

62. On October 15, 2003, the Regional Board adopted Resolution R2 2003-0096 in support of a collaborative working approach between the Board and BACWA to promote Pollution Prevention Program development and excellence. Specifically, the Resolution embodies a set of eleven guiding principles that will be used to develop tools such as "P2 menus" for specific pollutants, as well as provide guidance in improving P2 program efficiency and accountability. Key guiding principles in the Resolution include promoting watershed, cross-program and cross-media approaches to pollution prevention, and jointly developing tools to assess individual Discharger's program performance that may include peer reviews, self-audits or other formats.

**Requirement for Monitoring of Pollutants in Effluent and Receiving Water to Implement New Statewide Regulations and Policy**

63. *Insufficient Effluent and Ambient Background Data.* Board staff's review of the effluent and ambient background monitoring data found that there were insufficient data to determine Reasonable Potential and calculate numeric WQBELs, where appropriate, for some of the pollutants listed in the CTR, because monitoring has not occurred for a sufficient amount of time to capture the full range of variability.
64. *SIP- Required Priority Pollutant Monitoring.* The SIP states that each Board shall require major and minor POTWs and industrial dischargers in its region to conduct effluent monitoring for the priority pollutants and 2,3,7,8-TCDD congeners whether or not an effluent limitation is required.
65. On August 6, 2001, the Board sent a letter (hereinafter referred to as the Board's August 6, 2001 Letter) to all permitted dischargers pursuant to Section 13267 of the California Water Code requiring submittal of effluent and receiving water data on priority pollutants and other toxic pollutants. This formal request for technical information addresses the insufficient effluent and ambient background data.
66. Pursuant to the Board's August 6, 2001 Letter from Board Staff, the Discharger submitted workplans and sampling results for characterizing the levels of selected constituents in the effluent and ambient receiving water.
67. *Monitoring Requirements (Self-Monitoring Program).* The Self-Monitoring Program (SMP) includes monitoring at the outfall for conventional, non-conventional, and toxic pollutants, and acute toxicity. The monitoring frequency for TSS has been increased to five times per week since the Board believes that daily performance monitoring is appropriate for major POTWs. Since TSS provides a better measure of daily performance, the settleable solids monitoring frequency is reduced to quarterly. This Order requires monthly monitoring for lead to demonstrate compliance with final effluent limitations. This Order also requires monthly monitoring for copper, nickel, mercury, and cyanide to demonstrate compliance with interim effluent limitations. Additionally, this Order requires quarterly monitoring for aldrin to determine compliance with the interim effluent limitation, and to monitor the efficiency of the pollution prevention and source control measures implemented to reduce aldrin concentration levels in the effluent. Furthermore, this Order requires twice yearly monitoring for bis(2-ethylhexyl) phthalate, dieldrin, 4,4'-DDE, and dioxins and furans to determine compliance with effluent limitations since these pollutants have sparse data with either limited or no detected values in the effluent during the period 2000 through 2002. In lieu of near field



discharge specific ambient monitoring, it is generally acceptable that the Discharger participate in collaborative receiving water monitoring with other dischargers under the provisions of the Board's August 6, 2001 Letter and the RMP.

### **Optional Studies**

68. *Optional Mass Offset.* This Order contains requirements to prevent further degradation of the impaired waterbody. Such requirements include the adoption of interim mass limitations that are based on treatment plant performance, provisions for aggressive source control, feasibility studies for additional wastewater reclamation uses, and treatment plant optimization. After implementing these efforts, the Discharger may find that further net reductions of the total mass loadings of the 303(d)-listed pollutants to the receiving water can only be achieved through a mass offset program. This Order includes an optional provision for a mass offset program.
69. *Copper Translator Study.* The Basin Plan does not establish a saltwater WQO for copper. Therefore, the CTR WQC for copper, 3.1 µg/L dissolved, is the applicable standard. Since NPDES permit limitations must be expressed as a total recoverable metal value, a translator is required to convert the dissolved objective into a total recoverable objective. Per Appendix 3 of the SIP, the default translator used in this permit is 0.83, which converts the 3.1 µg/L dissolved criterion to 3.7 µg/L total criterion. An optional copper translator study is included in this permit to encourage the Discharger to develop a local translator value for copper in place of the default translator value of 0.83 established in the SIP.

### **Other Discharge Characteristics and Permit Conditions**

#### **Pretreatment Program**

70. The Discharger has implemented and is maintaining a U.S. EPA approved pretreatment program in accordance with Federal pretreatment regulations (40 CFR 403) and the requirements specified in Attachment E "Pretreatment Requirements" and its revisions thereafter.

#### **O & M Manual**

71. The Discharger maintains an Operations and Maintenance Manual to provide WWTP and regulatory personnel with a source of information describing all equipment, recommended operational strategies, process control monitoring, and maintenance activities. In order to remain a useful and relevant document, the manual shall be kept updated to reflect significant changes in treatment facility equipment and operation practices.

#### **NPDES Permit and CEQA**

72. This Order serves as an NPDES Permit, adoption of which is exempt from the provisions of Chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Code (California Environmental Quality Act - CEQA) pursuant to Section 13389 of the California Water Code.

### Notification

73. The Discharger and interested agencies and persons have been notified of the Board's intent to reissue requirements for the existing discharge and have been provided an opportunity to submit their written views and recommendations. Board staff prepared a Response to Comments, which are hereby incorporated by reference as part of this Order.

### Public Hearing

74. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

**IT IS HEREBY ORDERED**, pursuant to the provisions of Division 7 of the California Water Code, regulations, and plans and policies adopted thereunder, and to the provisions of the Clean Water Act and regulations and guidelines adopted thereunder, that the Delta Diablo Sanitation District (the Discharger) shall comply with the following:

## A. DISCHARGE PROHIBITIONS

1. Discharge of treated wastewater at a location or in a manner different from that described in this Order is prohibited.
2. Discharge of wastewater at any point where it does not receive an initial dilution of at least 10:1 is prohibited.
3. The bypass or overflow of untreated or partially treated wastewater to waters of the State, either at the WWTP or from the collection system or pump stations tributary to the WWTP, is prohibited, except as provided for bypasses under the conditions stated in 40 CFR 122.41(m)(4) and in Standard Provisions A.13. Because the Discharger has dual biological treatment processes, the trickling towers and aeration basins, routing flows to one but not the other is not considered bypass and is not a violation of this Order.

The discharge of blended wastewater, that is biologically treated wastewater blended with wastewater that have been diverted around biological treatment units or advanced treatment units, is allowable only 1) during wet weather, and 2) when the discharge complies with the effluent and receiving water limitations contained in this Order. Furthermore, the Discharger shall operate the facility as designed and in accordance with the Operation and Maintenance Manuals developed for the facility. This means that the Discharger shall optimize storage and use of equalization units, and shall fully utilize the biological treatment units, and advanced treatment units if applicable. The Discharger shall notify Board staff and the Contra Costa Water District when the Discharger plans to discharge the combined final effluent of fully treated and partially treated wastewater, and shall conduct monitoring of the bypass as specified elsewhere in this Order.

4. The discharge of average dry weather flows greater than 16.5 MGD is prohibited. The average dry weather flow shall be determined over three consecutive dry weather months each year.
5. This Order prohibits discharges of water, materials, or wastes other than storm water, which are not otherwise authorized by an NPDES permit, to a storm drain system or waters of the State. An exception to the discharge of waters to a storm drain system are the minor flows from the Recycle

Water Facility generated from the pH meter, the seal to the sand recycler, and the cleaning waters from the mud valve. These minor flows shall not be in excess of 1000 gpd and shall be collected in the storm drain system, which drains to the Discharger's emergency retention basin. All such flows collected in the basin shall be returned to the plant tower mixing chamber to be treated along with other wastewater flows in the WWTP.

## B. EFFLUENT LIMITATIONS

### Conventional Pollutants

1. The following effluent limitations apply to effluent discharged to New York Slough and Suisun Bay through the discharge outfall (Sampling Station E-001-D as defined in the Self-Monitoring Program). Chlorine residual and whole effluent acute toxicity shall be monitored at Sampling Station E-001-S and reported by the Discharger.
  - a. The effluent shall not exceed the following limitations:

Table 3. Effluent Limitations for Conventional Constituents

Constituent	Units	Monthly Average	Weekly Average	Daily Maximum	Instantaneous Maximum
i. Biochemical Oxygen Demand (BOD)	mg/L	30	45		--
ii. Total Suspended Solids (TSS)	mg/L	30	45		--
iii. Oil & Grease	mg/L	10	--	20	--
iv. Settleable Matter	ml/L-hr	0.1	--	0.2	--
v. Total Chlorine Residual <sup>A</sup>	mg/L	--	--	--	0.0

Footnote for Table 3:

A. Requirement defined as below the limit of detection in standard test methods defined in the latest U.S. EPA approved edition of *Standard Methods for the Examination of Water and Wastewater*. The Discharger may elect to use a continuous on-line monitoring system(s) for measuring flows, chlorine and sodium bisulfite dosage (including a safety factor) and concentration to prove that chlorine residual exceedances are false positives. If convincing evidence is provided, Board staff will conclude that these false positive chlorine residual exceedances are not violations of this permit limitation.

2. pH: The pH of the effluent shall not exceed 9.0 nor be less than 6.0

If the Discharger monitors pH continuously, the Discharger shall be in compliance with the pH limitation provided that both of the following conditions are satisfied: (i) The total time during which the pH values are outside the required range of pH values shall not exceed 7 hours and 26 minutes in any calendar month; and (ii) No individual excursion from the range of pH values shall exceed 60 minutes.

3. 85 Percent Removal, BOD and TSS

The arithmetic mean of the biochemical oxygen demand (BOD<sub>5</sub> 20°C) and Total Suspended Solids (TSS) concentrations, for effluent samples collected in each calendar month shall not exceed 15 percent of the arithmetic mean of the respective concentrations, for influent samples collected at approximately the same times during the same period.

4. Total Coliform Bacteria

The treated wastewater, at some point in the treatment process prior to discharge, shall meet the following limitations of bacteriological quality:

- a. The moving median value for the Most Probable Number (MPN) of total coliform bacteria in five (5) consecutive samples shall not exceed 23 MPN/100 ml; and,
- b. Any single sample shall not exceed 500 MPN/100 ml.
- c. The Discharger may conduct a bacteriological assessment study, as specified in Provision 14 of this Order, to evaluate the feasibility of using an alternate bacteria limitation.

During the study period, the Discharger is exempt from total coliform limit in 4.a. and 4.b. above for the term of the study as long as the Discharger can demonstrate that the exceedances of the total coliform limits are solely due to the study, and that there is compliance in the receiving water with the bacteriological objectives specified in the Basin Plan.

## **Toxic Pollutants**

### **Whole Effluent Acute Toxicity**

5. Representative samples of the effluent shall meet the following limitations for acute toxicity. Compliance with these limitations shall be achieved in accordance with Provision 10 of this Order.

- a. The survival of bioassay test organisms in 96-hour bioassays of undiluted effluent shall be:
  - i. an 11-sample median value of not less than 90 percent survival, as defined in subsection b.i., below, and
  - ii. an 11-sample 90th percentile value of not less than 70 percent survival as defined in subsection b.ii., below.
- b. These acute toxicity limitations are further defined as follows:
  - i. 11-sample median limitation:

Any bioassay test showing survival of 90 percent or greater is not a violation of this limitation. A bioassay test showing survival of less than 90 percent represents a violation of this effluent limitation, if five or more of the past ten or fewer bioassay tests also show less than 90 percent survival.

- ii. 90th percentile limitation:

Any bioassay test showing survival of 70 percent or greater is not a violation of this limitation. A bioassay test showing survival of less than 70 percent represents a violation of this effluent limitation, if one or more of the past ten or fewer bioassay tests also showed less than 70 percent survival.

## **Whole Effluent Chronic Toxicity**

### **6. Whole Effluent Chronic Toxicity**

- a. Representative samples of the effluent shall meet the following requirements for chronic toxicity. Compliance with the Basin Plan narrative chronic toxicity objective shall be demonstrated according to the following tiered requirements based on results from representative samples of the treated final effluent meeting test acceptability criteria:
  - (1) Routine monitoring;
  - (2) Accelerated monitoring after exceeding a three sample median value of 10 chronic toxicity (TUc) or a single sample maximum of 20 TUc or greater. Accelerated monitoring shall consist of monitoring at frequency intervals of one half the interval given for routine monitoring in the SMP of this Order;
  - (3) Return to routine monitoring if accelerated monitoring does not exceed either "trigger" in "2", above;
  - (4) Initiate approved toxicity identification evaluation/toxicity reduction evaluation (TIE/TRE) work plan if accelerated monitoring confirms consistent toxicity above either "trigger" in "2", above;
  - (5) Return to routine monitoring after appropriate elements of TRE work plan are implemented and either the toxicity drops below "trigger" level in "2", above or, based on the results of the TRE, the Executive Officer authorizes a return to routine monitoring.
- b. Test Species and Methods: Bioassays shall be conducted in compliance with the most recently promulgated test methods, currently "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms," 4<sup>th</sup> edition (EPA-821-R-02-013), with exceptions requested and justified by the Discharger and granted by the Executive Officer and the Environmental Laboratory Accreditation Program (ELAP).

## **Toxic Substances**

7. The effluent shall not exceed the following limitations:

Table 4. Toxic Substances

Constituent		Units	Maximum Daily	Average Monthly	Interim Daily Maximum	Interim Monthly Average	Notes
CTR No.	Name						
6	Copper	µg/l			16		(1)(2)
7	Lead	µg/l	3.2	1.6			(1)
8	Mercury	µg/l				0.084	(1)(3)
9	Nickel	µg/l			20		(1)(4)
14	Cyanide	µg/l			25		(1)(5)
68	Bis(2-Ethylhexyl) Phthalate	µg/l			46		(1)(6)
102	Aldrin	µg/l			0.005		(1)(6)
109	4,4'-DDE	µg/l			0.05		(1)(7)
111	Dieldrin	µg/l			0.01		(1)(7)
	TCDD TEQ	pg/l				0.13	(1)(8)

Footnotes to Table 4:

- (1.) a. Compliance with these limitations is intended to be achieved through secondary treatment and, as necessary, pretreatment and source control.
- b. All analyses shall be performed using current U.S. EPA methods, or equivalent methods approved in writing by the Executive Officer. The Board will find the Discharger in violation of the limitation if the discharge concentration exceeds the effluent limitation and the reported ML for the analysis for that constituent as specified in the Self-Monitoring Program.
- c. Limitations apply to the average concentration of all samples collected during the averaging period (Daily = 24-hour period; Monthly = calendar month).
- (2.) Copper: The interim limitation for copper shall remain in effect until January 31, 2009, or until the Board amends the limitation based on SSOs for copper. However, during the next permit revision, the Board may re-evaluate the interim limitation and compliance schedule.
- (3.) Mercury: Effluent mercury monitoring shall be performed using ultra-clean sampling and analysis techniques, with a method detection limit of 0.002 µg/L or lower. The interim limitation for mercury shall remain in effect until March 31, 2010, or until the Board amends the limitation based on a WLA in the TMDL for mercury. However, during the next permit reissuance, the Board may reevaluate the interim mercury limitation and compliance schedule.
- (4.) Nickel: The interim limitation for nickel shall remain in effect until March 31, 2010, or until the Board amends the limitation based on SSOs for nickel. However, during the next permit reissuance, the Board may reevaluate the interim nickel limitation and compliance schedule.
- (5.) Cyanide: Compliance may be demonstrated by measurement of weak acid dissociable cyanide. The interim limitation shall remain in effect until January 31, 2009, or until the Board amends the limitation based on SSOs for cyanide. However, during the next permit revision, the Board may re-evaluate the interim limitation and compliance schedule.
- (6.) Bis(2-ethylhexyl)phthalate and Aldrin: These interim limitations shall remain in effect until January 31, 2009. However, during the next permit revision, the Board may re-evaluate the interim limitations and compliance schedules.
- (7.) Dieldrin, and 4,4'-DDE: The interim limitation for dieldrin and 4,4'-DDE shall remain in effect until January 31, 2009, or until the Board amends the limitation based on the WLA in the TMDLs. However, during the next

permit revision, or based on additional data, the Board may re-evaluate the interim limitations and compliance schedules.

- (8.) TCDD TEQ: This interim limitation shall remain effective until August 1, 2014, or until the Board amends the limitations based on the WLA in the TMDLs, or during the next permit reissuance when the Board may re-evaluate the interim limitation and compliance schedule. Effluent monitoring shall be performed using analysis techniques that is at a minimum capable of achieving one-half the U.S. EPA method 1613 MLs. TCDD TEQ shall be calculated using 2002 U.S. EPA toxicity Equivalent factors for dioxin and furan congeners.

#### 8. Dry Weather Interim Mass Emission Limitation for Mercury

Until the mercury TMDL and Waste Load Allocation are adopted, the Discharger shall demonstrate that the total mercury mass loading from its discharges to the Sacramento-San Joaquin Delta has not increased by complying with the following conditions:

- a. During dry weather months (May through October), the total mercury mass load shall not exceed the mercury mass emission limitation of 0.038 kilograms per month (kg/month), as computed as follows:

*Monthly Total Mass Load, kg/month =  $Q \cdot C \cdot 0.1151$ , where*

$Q$  = monthly average WWTP dry weather effluent flow (May-Oct), MGD, as reported

$C$  = effluent concentration,  $\mu\text{g/L}$ , corresponding to each month's flow.

If more than one concentration measurement is obtained in a calendar month, the average of these measurements is used as the monthly concentration value for that month. If test results are less than the method detection limit used, the concentration value shall be assumed to be equal to the method detection limit.

0.1151 = unit conversion factor to obtain kg/month using monthly average flow in MGD and concentration in  $\mu\text{g/L}$ .

- b. The mercury TMDL and WLAs will supersede this interim mass emission limitation upon their completion. The Clean Water Act's anti-backsliding rule, Section 402(o), indicates that this Order may be modified to include a less stringent requirement following completion of the TMDL and WLA, if the requirements for an exception to the rule are met.

### C. RECEIVING WATER LIMITATIONS

1. The discharge of waste shall not cause the following conditions to exist in waters of the State at any place:
  - a. Floating, suspended, or deposited macroscopic particulate matter or foam;
  - b. Bottom deposits or aquatic growths to the extent that such deposits or growths cause nuisance or adversely affect beneficial uses;
  - c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;

- d. Visible, floating, suspended, or deposited oil or other products of petroleum origin; and
  - e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on wildlife, waterfowl, or other aquatic biota, or which render any of these unfit for human consumption, either at levels created in the receiving waters or as a result of biological concentration.
2. The discharge of waste shall not cause the following limitations to be exceeded in waters of the State at any one place within 1 foot of the water surface:
- a. Dissolved Oxygen: 7.0 mg/L, minimum  

The median dissolved oxygen concentration for any three consecutive months shall not be less than 80% of the dissolved oxygen content at saturation. When natural factors cause concentrations less than that specified above, then the discharge shall not cause further reduction in ambient dissolved oxygen concentrations.
  - b. Dissolved Sulfide: 0.1 mg/L, maximum
  - c. pH: Variation from normal ambient pH by more than 0.5 pH units.
  - d. Un-ionized Ammonia: 0.025 mg/L as N, annual median; and 0.16 mg/L as N, maximum.
  - e. Nutrients: Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses.
3. The discharge shall not cause a violation of any particular water quality standard for receiving waters adopted by the Board or the State Board as required by the Clean Water Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Clean Water Act, or amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards.

#### **D. SLUDGE MANAGEMENT PRACTICES**

1. All sludge generated by the Discharger must be disposed of in a municipal solid waste landfill, reused by land application, or disposed of in a sludge-only landfill. This disposal practice is regulated by the U.S. EPA under the 40 CFR 503 regulations (Standards for the Use or Disposal of Sewage Sludge; February 19, 1993 final rule). All the requirements in 40 CFR 503 are enforceable by U.S. EPA whether or not they are stated in an NPDES permit or other permit issued to the Discharger.
2. The Discharger is required to submit an annual report to the U.S. EPA regarding its sewage sludge disposal practices in accordance with the requirements of 40 CFR 503. The Discharger shall include a summary of this information in the Self Monitoring Program Annual Report submitted to the Board.



3. Sludge treatment, storage, and disposal or reuse shall not create a nuisance, such as objectionable odors or flies, or result in groundwater contamination.
4. The treatment and temporary storage of sewage sludge at the Discharger's wastewater treatment facility shall not cause waste material to be in a position where it will be carried from the sludge treatment and storage site and deposited in the waters of the State.
5. Permanent on-site storage or disposal of sewage sludge at the Discharger's wastewater treatment facility is not authorized by this permit. A report of Waste Discharge shall be filed and the site brought into compliance with all applicable regulations prior to commencement of any such activity by the Discharger.
6. The Board may amend this permit prior to expiration if changes occur in applicable state and federal sludge regulations.

## **E. PROVISIONS**

### **Permit Compliance and Rescission of Previous Waste Discharge Requirements**

1. The Discharger shall comply with all sections of this Order beginning on February 1, 2004. Requirements prescribed by this Order supersede the requirements prescribed by Order No. 93-142. Order No. 93-142 is hereby rescinded upon the effective date of this Order.

### **Special Studies**

#### **Regional Cyanide Study and Schedule – Site Specific Objective Study for Cyanide**

2. The Discharger shall participate in a regional discharger-funded effort to conduct a study for cyanide data collection and development of site-specific objective. The cyanide study plan was submitted on October 29, 2001. The Board intends to include, in a subsequent permit revision, a final cyanide limitation based on the study as an enforceable limitation.
  - a. The Discharger shall participate in the implementation of the current study. Annual reports shall be submitted by January 31 of each year documenting the progress of the ambient background characterization, and site-specific objective studies. Annual report shall summarize the findings and progress to date, and include a realistic assessment of the shortest practicable time required to perform the remaining tasks of the studies.

#### **Dioxin and Furan Lower Detection Limit Study**

3. In order to better determine the presence of dioxin and furan compounds in the Discharger's final effluent, the Discharger shall investigate the feasibility and reliability of increasing sample volumes to lower the detection limits. This will involve studies to validate four-liter samples to lower the detection limits. The Discharger may collaborate with other dischargers in this Region on these studies. Compliance with the effluent limit using a four-liter sample are not required until after this method is validated by the Board's Executive Officer, or U.S. EPA. The Board

may also re-evaluate feasibility to comply with the effluent limit if lower detection limits using 4-liter samples reveal the presence of previously undetected congeners. The Discharger shall conduct the validation study in accordance with the following tasks and time schedule:

- a. Develop a study work plan and time schedule to validate four-liter samples for dioxins and furan compounds analysis, acceptable to the Executive Officer, no later than 180 days after the effective date of this Order;
- b. Commence work in accordance with the study work plan and time schedule submitted pursuant to Provision 3.a no later than 60 days following approval by the Executive Officer; and
- c. Submit a report documenting the findings of the study annually to the Executive Officer.

#### **Bis(2-ethylhexyl)phthalate Laboratory Analysis Study**

4. The Discharger shall conduct a study to ensure that future laboratory sampling, sample handling, and sample analysis for bis(2-ethylhexyl)phthalate accurately and precisely represents the Discharger's final effluent. The Discharger may collaborate with other dischargers in this Region on these studies. A study work plan must be approved by the Executive Officer and the study will address whether past bis(2-ethylhexyl)phthalate laboratory techniques were erroneous. Consequently, if new bis(2-ethylhexyl)phthalate measurements conducted under this special study are determined to be adequate and valid, Board staff may re-evaluate the reasonable potential for bis(2-ethylhexyl)phthalate. The Discharger shall conduct the study in accordance with the following tasks and time schedule:
  - a. Develop a study work plan and time schedule to investigate laboratory sampling and analysis techniques for bis(2-ethylhexyl)phthalate, acceptable to the Executive Officer, no later than 180 days after the effective date of this Order;
  - b. Commence work in accordance with the study work plan and time schedule submitted pursuant to Provision 4.a. no later than 60 days following approval by the Executive Officer; and
  - c. Submit a final report documenting the findings of the study no later than 12 months following commencement of data collection as prescribed in the work plan and time schedule acceptable to the Executive Officer

#### **Pretreatment Program**

5. Pretreatment Program: The Discharger shall implement and enforce its approved pretreatment program in accordance with Federal Pretreatment Regulations (40 CFR 403), pretreatment standards promulgated under Section 307(b), 307(c), and 307(d) of the Clean Water Act, pretreatment requirements specified under 40 CFR 122.44(j), and the requirements in Attachment E, "Pretreatment Requirements." The Discharger's responsibilities include, but are not limited to:
  - a. Enforcement of National Pretreatment Standards in accordance with 40 CFR 403.5 and 403.6;

- b. Implementation of its pretreatment program in accordance with legal authorities, policies, procedures and financial provisions described in the General Pretreatment regulations (40 CFR 403) and the Discharger's approved pretreatment program;
- c. Submission of reports to, the State Board and the Board, as described in Attachment E, "Pretreatment Requirements;"
- d. Evaluate the need to revise local limits under 40 CFR 403.5(c)(1); and within 180 days after the effective date of this Order, submit a report acceptable to the Executive Officer describing the changes with a plan and schedule for implementation.

The Discharger shall implement its approved pretreatment program and the program shall be an enforceable condition of this permit. If the Discharger fails to perform the pretreatment functions, the Regional Water Quality Control Board, the State Waters Resources Control Board, or the United States Environmental Protection Agency may take enforcement actions against the Discharger as authorized by the Clean Water Act.

#### **Advanced Mercury Source Reduction Project**

- 6. The Discharger shall implement an aggressive public outreach and education program targeting the proper disposal of fluorescent light tubes, evaluate the effectiveness of this mercury reduction program, and report the findings to the Executive Officer no later than March 1, 2007.
  - a. The Discharger's Advanced Mercury Source Reduction Project shall include but not be limited to:
    - i) A notice to residents with local water or garbage bills;
    - ii) A cooperative outreach effort with retailers that will visibly displays outreach materials in the section of the store where fluorescent tubes are sold;
    - iii) Specific information and discussion in the schools' outreach program;
    - iv) Creation of a mercury source reduction web page that is linked to the Discharger's website;
    - v) Information and outreach materials in the media relations kit and at the Discharger's booth used at local fairs and public gatherings;
    - vi) Conducting outreach to local business via the local chambers of commerce;
    - vii) Emphasizing fluorescent tube education and disposal as a part of the Speakers Bureau for the Board of Directors to promote the program; and
    - viii) Generating a press release for the local newspapers promoting the program.
  - b. The Discharger shall implement the Project in accordance with the following tasks and schedule:

- i) Develop a work plan proposal and time schedule for an aggressive outreach and collection program for fluorescent tubes and light bulbs, acceptable to the Executive Officer, no later than 90 days after the effective date of this Order. The work plan proposal shall describe future work, as well as current baseline efforts in public outreach and collection since the opening of the Discharger's Hazardous Waste Facility in 1996. This includes a chronological account (by year) of the number of tubes collected, and a summary of the public outreach efforts conducted, and public surveys performed.
- ii) Commence work in accordance with the work plan and time schedule submitted pursuant to Provision 6.b. no later than 60 days following approval by the Executive Officer.
- iii) The Discharger shall submit a final report presenting the results of the Advanced Mercury Source Reduction Project no later than March 1, 2007.
- iv) The Discharger shall set a goal of increasing the amount of tubes collected by 5 times current levels, through the above more aggressive efforts. The Discharger may amend, subject to approval from the Executive Officer, its work plan elements from year to year in order to achieve this goal. If by the time of the final report due in Provision 6.b.iii), the goal has not been achieved, the Discharger shall include in the final report descriptions of alternate special mercury reduction projects that may be implemented.

### **Effluent Characterization for Selected Constituents**

7. The Discharger shall monitor and evaluate the discharge from Outfall E-001-D for the constituents listed in Enclosure A of the Board's August 6, 2001 Letter. Compliance with this requirement shall be achieved in accordance with the specifications stated in the Board's August 6, 2001 Letter under Effluent Monitoring for major Dischargers. A final report that presents all the data shall be submitted to the Board no later than 180 days prior to the permit expiration date (the same schedule is also specified in Board's August 6, 2001 Letter). This final report shall be submitted with the application for permit reissuance.

### **Ambient Background Receiving Water Study**

8. The Discharger shall continue to collect or participate in collecting background ambient receiving water data with other Dischargers and/or through the RMP. This information is required to perform RPAs and to calculate effluent limitations. To fulfill this requirement, the Discharger shall submit data sufficient to characterize the concentration of each toxic pollutant listed in the CTR in the ambient receiving water. The data on the conventional water quality parameters (pH, salinity, and hardness) shall also be sufficient to characterize these parameters in the ambient receiving water at a point after the discharge has mixed with the receiving waters.

The sampling frequency and sampling station locations shall be specified in the sampling plan. The frequency of monitoring shall consider seasonal variability of the receiving water.

*Final Report:* The Discharger shall submit a final report that presents all the data to the Board 180 days prior to permit expiration. This final report shall be submitted with the application for permit reissuance.

### **Pollution Prevention and Pollutant Minimization Program**

9. a. The Discharger shall continue to conduct and improve its existing Pollution Prevention Program in order to reduce pollutant loadings to the treatment plant and therefore to the receiving waters.
- b. The Discharger shall submit an annual report, acceptable to the Executive Officer, no later than February 28<sup>th</sup> of each year. Annual reports shall cover January through December of the preceding year. Annual reports shall include at least the following information:
  - (i) *A brief description of its treatment plant, treatment plant processes and service area.*
  - (ii) *A discussion of the current pollutants of concern.* Periodically, the Discharger shall analyze its own situation to determine which pollutants are currently a problem and/or which pollutants may be potential future problems. This discussion shall include the reasons why the pollutants were chosen.
  - (iii) *Identification of sources for the pollutants of concern.* This discussion shall include how the Discharger intends to estimate and identify sources of the pollutants.
  - (iv) *Identification of tasks to reduce the sources of the pollutants of concern.* This discussion shall identify and prioritize tasks to address the Discharger's pollutants of concern. The Discharger may implement tasks themselves or participate in group, regional, or national tasks that will address its pollutants of concern. The Discharger is strongly encouraged to participate in group, regional, or national tasks that will address its pollutants of concern whenever it is efficient and appropriate to do so. A time line shall be included for the implementation of each task.
  - (v) *Continuation of tenant outreach program.* The Discharger shall implement a public outreach program to communicate pollution prevention to its service area.
  - (vi) *Discussion of criteria used to measure the Program's and tasks' effectiveness.* The Discharger shall establish criteria to evaluate the effectiveness of its Pollution Prevention Program. This shall also include a discussion of the specific criteria used to measure the effectiveness of each of the tasks in item b. (iv), b. (v), and b. (vi).
  - (vii) *Documentation of efforts and progress.* This discussion shall detail all of the Discharger's activities in the Pollution Prevention Program during the reporting year.
  - (viii) *Evaluation of Program's and tasks' effectiveness.* This Discharger shall utilize the criteria established in b. (vii) to evaluate the Program's and tasks' effectiveness.
  - (ix) *Identification of specific tasks and time schedules for future efforts.* Based on the evaluation, the Discharger shall detail how it intends to continue or change its tasks in order to more effectively reduce the amount of pollutants to the treatment plant, and subsequently in its effluent.
- c. According to Section 2.4.5 of the SIP, when there is evidence that a priority pollutant is present in the effluent above an effluent limitation and either:
  - (i) A sample result is reported as detected, but not quantified (less than the Minimum Level) and the effluent limitation is less than the reported Minimum Level; or
  - (ii) A sample result is reported as not detected (less than the Method Detection Limit) and the effluent limitation is less than the Method Detection Limit

The Discharger shall expand its existing Pollution Prevention Program to include the reportable priority pollutant. A priority pollutant becomes a reportable priority pollutant when (1) there is evidence that it is present in the effluent above an effluent limitation and

either (c)(i) or (c) (ii) is triggered or (2) if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reported Minimum Level.

- d. If triggered by the reasons in Provision E.9.c. and notified by the Executive Officer, the Discharger's Pollution Prevention Program shall, within 6 months, also include:
- (i) An annual review and semi-annual monitoring of potential sources of the reportable priority pollutant(s), which may include fish tissue monitoring and other bio-uptake sampling, or alternative measures approved by the Executive Officer when it is demonstrated that source monitoring is unlikely to produce useful analytical data;
  - (ii) Quarterly monitoring for the reportable priority pollutant(s) in the influent to the wastewater treatment system, or alternative measures approved by the Executive Officer when it is demonstrated that influent monitoring is unlikely to produce useful analytical data;
  - (iii) Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable priority pollutant(s) in the effluent at or below the effluent limitation;
  - (iv) Development of appropriate cost-effective control measures for the reportable priority pollutant(s), consistent with the control strategy; and
  - (v) An annual status report that shall be sent to the RWQCB including:
    - 1. All Pollution Prevention monitoring results for the previous year;
    - 2. A list of potential sources of the reportable priority pollutant(s);
    - 3. A summary of all actions undertaken pursuant to the control strategy; and
    - 4. A description of actions to be taken in the following year.
- e. To the extent where the requirements of the Pollution Prevention Program and the Pollutant Minimization Program overlap, the Discharger is allowed to continue/modify/expand its existing Pollution Prevention Program to satisfy the Pollutant Minimization Program requirements.
- f. These Pollution Prevention/Pollutant Minimization Program requirements are not intended to fulfill the requirements in The Clean Water Enforcement and Pollution Prevention Act of 1999 (Senate Bill 709).

## **Toxicity Requirements**

### **Whole Effluent Acute Toxicity**

10. Compliance with acute toxicity requirements of this Order shall be achieved in accordance with the following:
- i. Compliance with the acute toxicity effluent limitations of this Order shall be evaluated by measuring survival of test organisms exposed to 96-hour continuous flow-through bioassays. If the Discharger will use static renewal tests, they must submit a technical report within 90 days of the effective date of this permit, identifying the reasons why flow-through bioassays are not feasible using the approved U.S. EPA protocol.
  - ii. Test organisms shall be fathead minnows and rainbow trout unless specified otherwise in writing by the Executive Officer.

- iii. All bioassays shall be performed according to the most up-to-date protocols in 40 CFR Part 136, currently in "Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms," 5<sup>th</sup> Edition. From permit adoption date, up until May 1, 2004, since the Discharger's laboratory is currently ELAP certified with 3rd Edition only, it is acceptable to use 3rd Edition methods until ELAP certifies the laboratory for the 5<sup>th</sup> Edition.

### **Whole Effluent Chronic Toxicity**

11. The Discharger shall monitor and evaluate effluent discharged for chronic toxicity in order to demonstrate compliance with the Basin Plan narrative toxicity objective. Compliance with this requirement shall be achieved in accordance with the following.
  - a. The Discharger shall conduct routine chronic toxicity monitoring in accordance with the SMP of this Order.
  - b. If data from routine monitoring exceed either of the following evaluation parameters, then the Discharger shall conduct accelerated chronic toxicity monitoring. Accelerated monitoring shall consist of monitoring at frequency intervals of one half the interval given for routine monitoring in the SMP of this Order.
  - c. Chronic toxicity evaluation parameters:
    - 1) A three sample median value of 10 TU<sub>c</sub> and
    - 2) A single sample maximum value of 20 TU<sub>c</sub>.
    - 3) These parameters are defined as follows:
      - (a) Three-sample median: A test sample showing chronic toxicity greater than 10 TU<sub>c</sub> represents an exceedence of this parameter, if one of the past two or fewer tests also show chronic toxicity greater than 10 TU<sub>c</sub>.
      - (b) TU<sub>c</sub> (chronic toxicity unit): A TU<sub>c</sub> equals 100/NOEL (e.g., If NOEL = 100, then toxicity = 1 TU<sub>c</sub>). NOEL is the no observed effect level determined from IC, EC, or NOEC values <sup>(c)</sup>.
      - (c) The terms IC, EC, NOEL and NOEC and their use are defined in Attachment A of the SMP.
  - d. If data from accelerated monitoring tests are found to be in compliance with the evaluation parameters, then routine monitoring shall be resumed.
  - e. If accelerated monitoring tests continue to exceed either evaluation parameter, then the Discharger shall initiate a chronic toxicity reduction evaluation (TRE).
  - f. The TRE shall be conducted in accordance with the following:
    - 1) The Discharger shall prepare and submit to the Board for Executive Officer approval a TRE work plan. An initial generic workplan shall be submitted within 120 days of the date of adoption of this Order. The workplan shall be reviewed and updated as necessary in order to remain current and applicable to the discharge and discharge facilities.
    - 2) The TRE shall be initiated within 30 days of the date of completion of the accelerated monitoring test observed to exceed either evaluation parameter.
    - 3) The TRE shall be conducted in accordance with an approved work plan.

- 4) The TRE needs to be specific to the discharge and Discharger's facility, and be in accordance with current technical guidance and reference materials including U.S. EPA guidance materials. TRE shall be conducted as a tiered evaluation process, such as summarized below:
    - (a) Tier 1 consists of basic data collection (routine and accelerated monitoring).
    - (b) Tier 2 consists of evaluation of optimization of the treatment process including operation practices, and in-plant process chemicals.
    - (c) Tier 3 consists of a toxicity identification evaluation (TIE).
    - (d) Tier 4 consists of evaluation of options for additional effluent treatment processes.
    - (e) Tier 5 consists of evaluation of options for modifications of in-plant treatment processes.
    - (f) Tier 6 consists of implementation of selected toxicity control measures, and follow-up monitoring and confirmation of implementation success.
  - 5) The TRE may be ended at any stage if monitoring finds there is no longer consistent toxicity.
  - 6) The objective of the TIE shall be to identify the substance or combination of substances causing the observed toxicity. All reasonable efforts using currently available TIE methodologies shall be employed.
  - 7) As toxic substances are identified or characterized, the Discharger shall continue the TRE by determining the source(s) and evaluating alternative strategies for reducing or eliminating the substances from the discharge. All reasonable steps shall be taken to reduce toxicity to levels consistent with chronic toxicity evaluation parameters.
  - 8) Many recommended TRE elements parallel required or recommended efforts of source control, pollution prevention and storm water control programs. TRE efforts should be coordinated with such efforts. To prevent duplication of efforts, evidence of complying with requirements or recommended efforts of such programs may be acceptable to comply with TRE requirements.
  - 9) The Board recognizes that chronic toxicity may be episodic and identification of causes of and reduction of sources of chronic toxicity may not be successful in all cases. Consideration of enforcement action by the Board will be based in part on the Discharger's actions and efforts to identify and control or reduce sources of consistent toxicity.
- g. Chronic Toxicity Monitoring Screening Phase Requirements, Critical Life Stage Toxicity Tests and definitions of terms used in the chronic toxicity monitoring are identified in Attachment C of the SMP. The Discharger shall comply with these requirements as applicable to the discharge.

## Optional Studies

### Mass Offset

12. The Discharger may submit to the Board for approval a mass offset plan to reduce 303(d)-listed pollutants to the same watershed or drainage basin. The Board may modify this Order to allow an approved mass offset program.



### **Copper and Nickel Translator Study and Schedule**

13. In order to develop information that may be used to establish water-quality-based effluent limitations based on dissolved criteria for copper and nickel, the Discharger may utilize RMP data from stations nearest the Discharger's outfall. Copper and nickel translators will be calculated as part of the technical work being conducted for the North of Dumbarton copper/nickel TMDL/SSO project. Optionally, the Discharger may implement a sampling plan to collect data for development of translators for copper and nickel. If the Discharger chooses to proceed with the study, which may be conducted in cooperation with other Dischargers, the work shall be performed in accordance with the following tasks:
- a. Copper and Nickel Translator Study Plan. If submitted, the study plan shall be acceptable to the Executive Officer and shall outline data collection for establishment of copper and nickel translators, as discussed in the findings.
  - b. After Executive Officer approval, the study plan may be implemented. If submitted, the study plan shall provide for development of translators in accordance with the State Board's SIP, U.S. EPA guidelines, California Department of Fish and Game approval, and any relevant portions of the Basin Plan, as amended.
  - c. Copper and Nickel Translator Final Report: If the Discharger conducts a translator study, it will use field sampling data approximate to the discharge point and in the vicinity of the discharge point, or as otherwise provided for in the approved workplan, and will submit a final report, acceptable to the Executive Officer, no later than November 30, 2005, documenting the results of the copper and nickel translator study. The study may be conducted in coordination with other Dischargers and may also include any other site specific information that the Discharger would like the Board to consider in development of a water-quality-based effluent limitation for copper and nickel.

### **Bacteriological Assessment Study**

14. In order to develop information that may be used in a subsequent permit amendment to establish alternate bacteria limits, the Discharger may conduct a bacteriological assessment study, acceptable to the Executive Officer. The study will evaluate impacts of the Discharger's effluent on the receiving waters (including worst-case conditions). The Basin Plan allows alternate bacteria limitations provided that the Discharger conclusively demonstrates "through a program approved by the Regional Board that such substitution will not result in unacceptable adverse impacts on the beneficial uses of the receiving waters." If the study demonstrates that the exceedances of the total coliform limits are solely due to the study, and that there is compliance in the receiving water with the bacteriological objectives specified in the Basin Plan, the Board may consider establishing alternate bacteria limitations.

### **Facilities Status Reports and Permit Administration**

15. Wastewater Facilities, Review and Evaluation, and Status Reports
- a. The Discharger shall operate and maintain its wastewater collection, treatment and disposal facilities in a manner to ensure that all facilities are adequately staffed, supervised, financed, operated, maintained, repaired, and upgraded as necessary, in order to provide adequate and

reliable transport, treatment, and disposal of all wastewater from both existing and planned future wastewater sources under the Discharger's service responsibilities.

- b. The Discharger shall regularly review and evaluate its wastewater facilities and operation practices in accordance with section a. above. Reviews and evaluations shall be conducted as an ongoing component of the Discharger's administration of its wastewater facilities.
- d. Annually, the Discharger shall submit to the Board a report describing the current status of its wastewater facility review and evaluation, including any recommended or planned actions and an estimated time schedule for these actions. This report shall include a description or summary of review and evaluation procedures, and applicable wastewater facility programs or capital improvement projects. This report shall be submitted in accordance with the Annual Status Report Provision below.

16. Operations and Maintenance Manual, Review and Status Reports

- a. The Discharger shall maintain an Operations and Maintenance Manual (O & M Manual) as described in the findings of this Order for the Discharger's wastewater facilities. The O & M Manual shall be maintained in useable condition, and available for reference and use by all applicable personnel.
- b. The Discharger shall regularly review, and revise or update as necessary, the O & M Manual(s) in order for the document(s) to remain useful and relevant to current equipment and operation practices. Reviews shall be conducted annually, and revisions or updates shall be completed as necessary. For any significant changes in treatment facility equipment or operation practices, applicable revisions shall be completed within 90 days of completion of such changes.
- c. Annually, the Discharger shall submit to the Board a report describing the current status of its O & M Manual review and updating. This report shall include an estimated time schedule for completion of any revisions determined necessary, a description of any completed revisions, or a statement that no revisions are needed. This report shall be submitted in accordance with the Annual Status Report Provision below.

17. Contingency Plan, Review and Status Reports

- a. The Discharger shall maintain a Contingency Plan as required by Board Resolution 74-10 (available online - see Standard Language And Other References Available Online, below), and as prudent in accordance with current municipal facility emergency planning. The discharge of pollutants in violation of this Order where the Discharger has failed to develop and/or adequately implement a contingency plan will be the basis for considering such discharge a willful and negligent violation of this Order pursuant to Section 13387 of the California Water Code.
- b. The Discharger shall regularly review, and update as necessary, the Contingency Plan in order for the plan to remain useful and relevant to current equipment and operation practices. Reviews shall be conducted annually, and updates shall be completed as necessary.
- c. Annually, the Discharger shall submit to the Board a report describing the current status of its Contingency Plan review and update. This report shall include a description or copy of any

completed revisions, or a statement that no changes are needed. This report shall be submitted in accordance with the Annual Status Report Provision below.

**18. Annual Status Reports**

The annual reports identified in Provisions 15c, 16.c, and 17.c, above, shall be submitted to the Board by June 30 of each year. Modification of report submittal dates may be authorized, in writing, by the Executive Officer.

**303(d)-listed Pollutants Site-Specific Objective and TMDL Status Review**

19. The Discharger shall participate in the development of a TMDL or site-specific objective for nickel, mercury, selenium, 4,4'-DDE, dieldrin, dioxin TEQ, and PCBs. By January 31 of each year, the Discharger shall submit an update to the Board to document its participation efforts toward development of the TMDL(s) or site-specific objective(s). Board staff shall review the status of TMDL development. This Order may be reopened in the future to reflect any changes required by TMDL development.

**New Water Quality Objectives**

20. As new or revised WQOs come into effect for the Bay and contiguous water bodies (whether statewide, regional or site-specific), effluent limitations in this Order will be modified as necessary to reflect updated WQOs. Adoption of effluent limitations contained in this Order are not intended to restrict in any way future modifications based on legally adopted WQOs.

**Self-Monitoring Program**

21. The Discharger shall comply with the Self-Monitoring Program (SMP) for this Order as adopted by the Board. The SMPs may be amended by the Executive Officer pursuant to U.S. EPA regulation 40 CFR122.62, 122.63, and 124.5.

**Standard Provisions and Reporting Requirements**

22. The Discharger shall comply with all applicable items of the attached Standard Provisions and Reporting Requirements for NPDES Surface Water Discharge Permits, August 1993 (the Standard Provisions), or any amendments thereafter. Where provisions or reporting requirements specified in this Order are different from equivalent or related provisions or reporting requirements given in the Standard Provisions, the specifications of this Order shall apply.

**Change in Control or Ownership**

23. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to the Board.
24. To assume responsibility for and operations under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order (see Standard

Provisions & Reporting Requirements, August 1993, Section E.4.). Failure to submit the request shall be considered a discharge without requirements, a violation of the California Water Code.

## **Permit Reopener**

25. The Board may modify or reopen this Order and Permit prior to its expiration date in any of the following circumstances:

- a. If present or future investigations demonstrate that the discharge(s) governed by this Order and Permit will, or cease to have, a Reasonable Potential to cause or contribute to adverse impacts on water quality and/or beneficial uses of the receiving waters;
- b. New or revised WQOs come into effect for the San Francisco Bay estuary and contiguous water bodies (whether statewide, regional, or site-specific). In such cases, effluent limitations in this permit will be modified as necessary to reflect updated WQOs. Adoption of effluent limitations contained in this Order and Permit is not intended to restrict in any way future modifications based on legally adopted WQOs or as otherwise permitted under Federal regulations governing NPDES permit modifications;
- c. If translator or other water quality studies provide a basis for determining that a permit condition(s) should be modified;
- d. An administrative or judicial decision on a separate NPDES permit or WDR that address requirements similar to this discharge; and
- e. As authorized by law.

The Discharger may request permit modification based on b, c, d and e above. The Discharger shall include in any such request an antidegradation and antibacksliding analysis.

## **NPDES Permit**

26. This Order shall serve as a National Pollutant Discharge Elimination System (NPDES) permit pursuant to Section 402 of the Clean Water Act or amendments thereto, and shall become effective on February 1, 2004, provided the U.S. EPA Regional Administrator has no objection. If the Regional Administrator objects to its issuance, the permit shall not become effective until such objection is withdrawn.

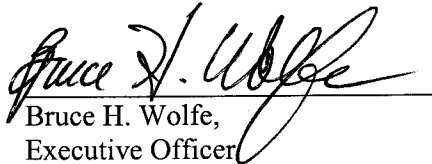
## **Order Expiration and Reapplication**

27. This Order expires January 1, 2009.

28. In accordance with Title 23, Chapter 3, Subchapter 9 of the California Administrative Code, the Discharger must file a report of waste discharge no later than 180 days before the expiration date of this Order as application for reissue of this permit and waste discharge requirements. The application shall be accompanied by a summary of all available water quality data including conventional pollutant data from no less than the most recent three years, and of toxic pollutant data no less than from the most recent five years, in the discharge and receiving water. Additionally, the application shall be accompanied with the results of the whole effluent chronic toxicity screening study specified in Part B of the Self-Monitoring Program.

December 3, 2003

I, Bruce Wolfe, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on December 3, 2003.

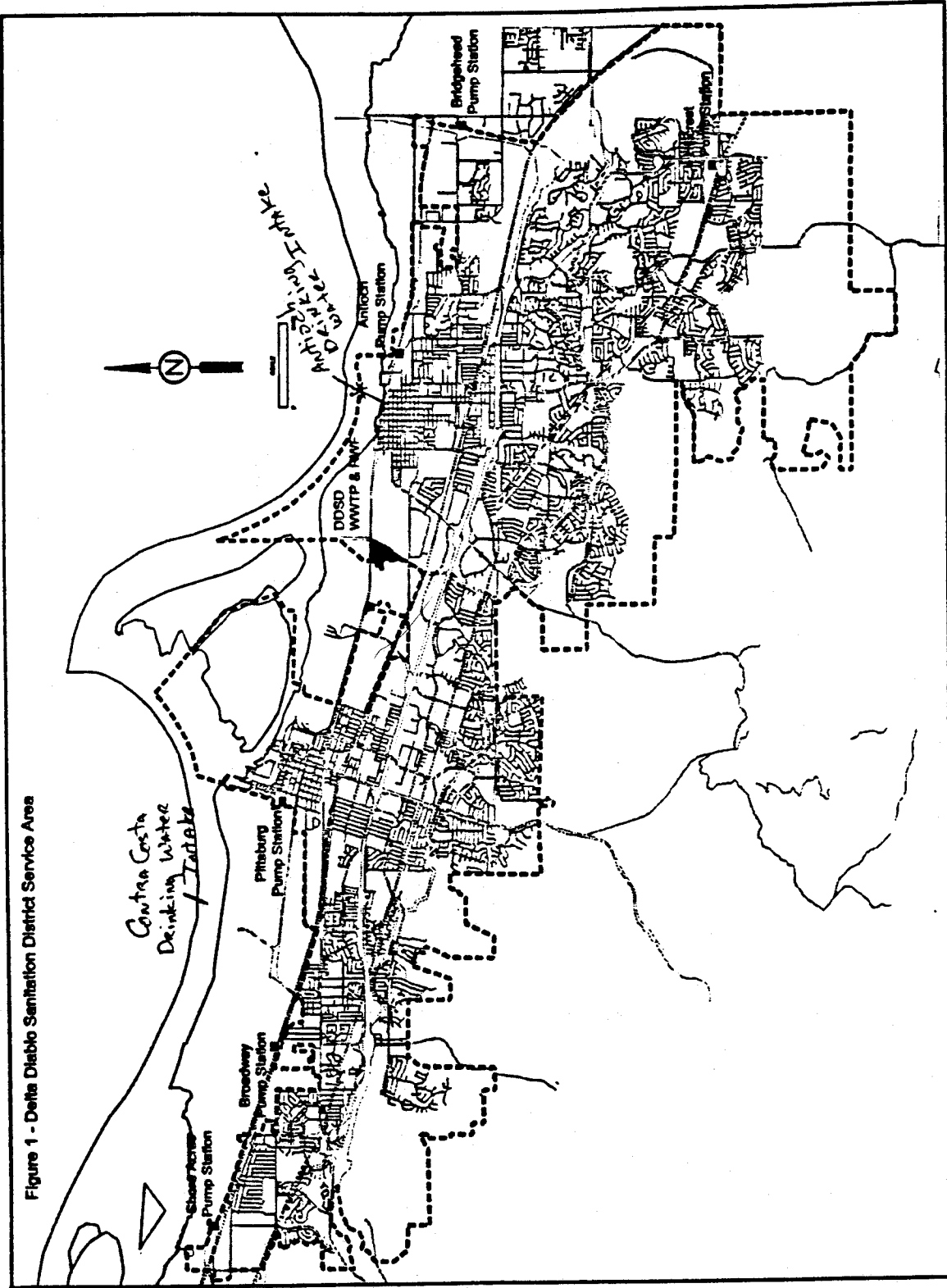
  
Bruce H. Wolfe,  
Executive Officer

### Attachments

- A. Discharge Facility Location Map
- B. Discharge Facility Treatment Process Diagram
- C. Self-Monitoring Program (SMP), Part B
- D. The following documents are part of this Permit, but are not physically attached due to volume. They are available on the internet at [www.swrcb.ca.gov/rwqcb2/Download.htm](http://www.swrcb.ca.gov/rwqcb2/Download.htm):
  - SMP, Part A (August 1993)
  - Resolution 74-10
  - Staff Report: Statistical Analysis of Pooled Ultra Clean Mercury Data
  - August 6, 2001 Letter
- E. Fact Sheet
- F. Pretreatment Requirements

**Attachment A.**  
**Discharge Facility Location Map**

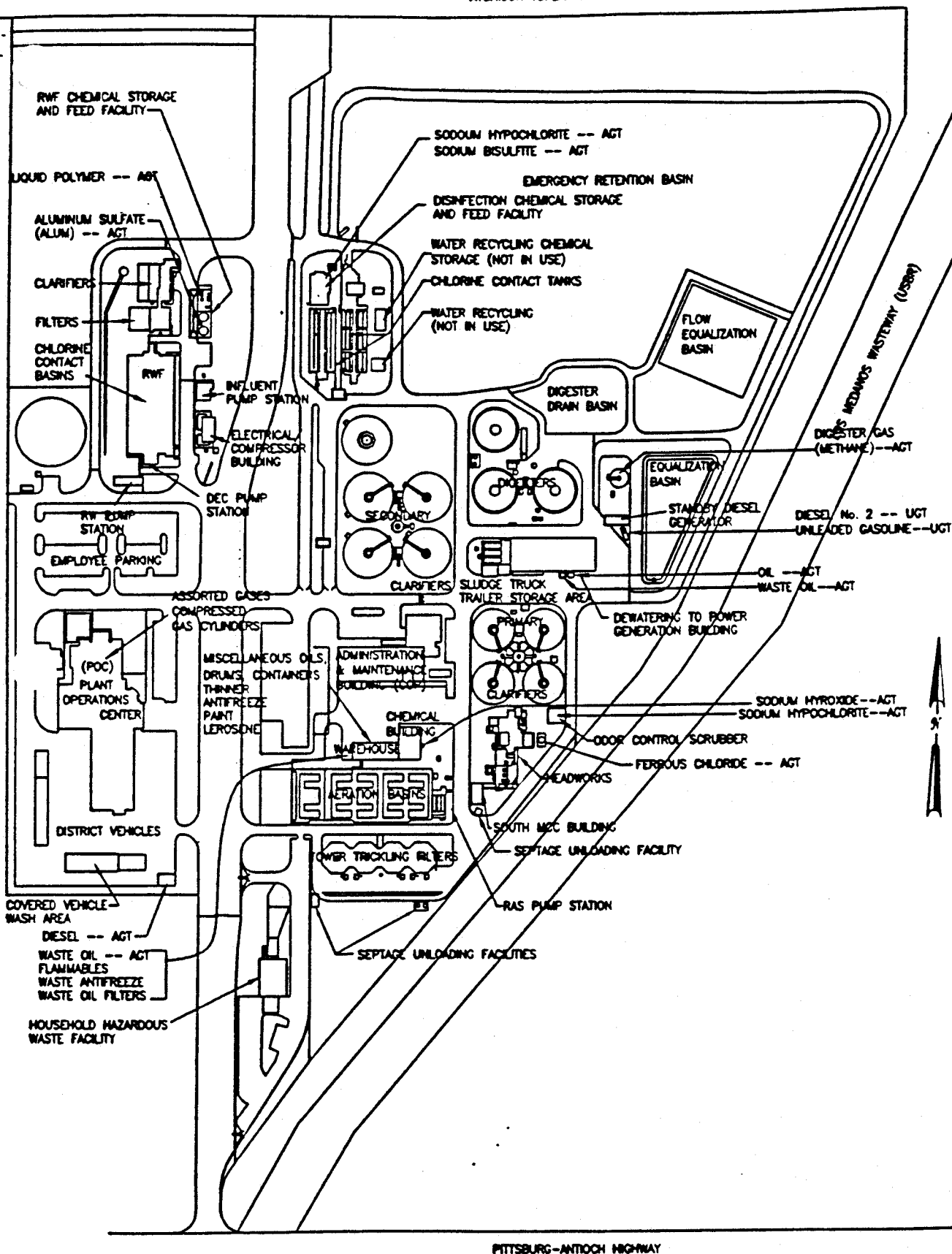
Figure 1 - Delta Diablo Sanitation District Service Area



**Attachment B.**

**Discharge Facility Treatment Process Diagram**





PITTSBURG-ANTIOCH HIGHWAY

JOB NO.:  
 DESIGN BY:  
 DRAWN BY: TOM DACY  
 CHECKED BY: MIKE DIXON  
 DATE: MAY 2003



**Delta Diablo Sanitation District**

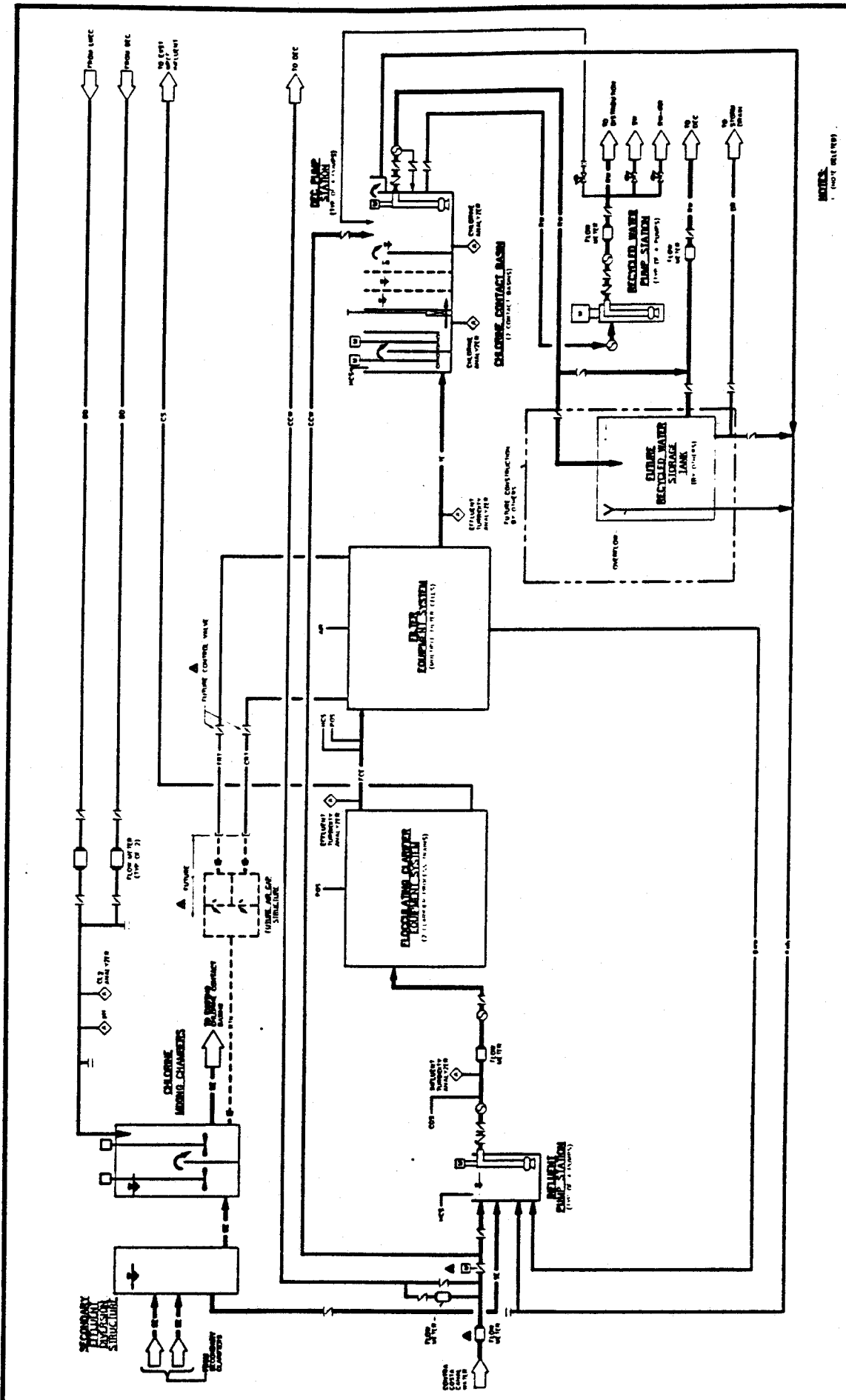
2500 Pittsburg-Antioch Highway Antioch, California

**TREATMENT PLANT FACILITIES  
 SITE PLAN**

DRAWING NUMBER

SHEET 1 OF 1





NOTES:  
(None Shown)

REV. NO.	G-5
DATE	10/1/82
BY	J. W. B.
CHECKED	J. W. B.
APPROVED	J. W. B.
PROJECT	RECYCLED WATER FACILITY
SHEET NO.	1 OF 1
TOTAL SHEETS	1
DRAWN BY	J. W. B.

**Attachment C.**  
**Self-Monitoring Program, Part B**

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD**

**SAN FRANCISCO BAY REGION**

**SELF-MONITORING PROGRAM**

**FOR**

**DELTA DIABLO SANITATION DISTRICT**

**ANTIOCH, CONTRA COSTA COUNTY**

**NPDES PERMIT NO. CA0038547**

**ORDER NO. R2-2003 - 0114**

**Consists of:**

**Part A, Adopted August 1993  
(Not attached)**

**And**

**Part B, Effective February 1, 2004  
(Attached)**

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## I. Station Descriptions

NOTE: A sketch showing the locations of all sampling and observation stations shall be included in the Annual Report, and in the monthly report if stations change.

<u>Station</u>	<u>Description</u>
A. INFLUENT	
A-001	At any point in the treatment facilities headworks at which all waste tributary to the system is present and preceding any phase of treatment.
B. EFFLUENT	
E-001-D	At any point in the outfall from the treatment facilities between the point of discharge and the point at which all waste tributary to that outfall is present, and where adequate contact with the disinfectant is assured. (May be the same as E-001-S)
E-001-S	At any point in the disinfection facilities at which all waste has been disinfected and dechlorinated.
C. RECEIVING WATERS	
C-1	At a point in New York Slough directly above the center of the diffuser.
C-2-A	At a point in New York Slough located 1000 feet upstream, respectively of the center of the diffuser.
C-2-B	At a point in New York Slough located 1000 feet downstream, respectively of the center of the diffuser.
D. LAND OBSERVATIONS	
P-1 thru P-'n'	Located at the periphery of the waste treatment or disposal facilities, at equidistant intervals, not to exceed 200 feet. (A sketch showing the locations of these stations will accompany each report).
E. OVERFLOWS AND BYPASSES	
OV-1 thru OV-'n'	Bypass or overflows from manholes, pump stations, collection systems or any sludge drying bed areas.
F. SLUDGE	

The Discharger shall continue to analyze sludge on a semi-annual basis for priority pollutant metals and organics.

## II. Schedule Of Sampling, Analyses And Observations

The schedule of sampling, analysis and observation shall be that given in Table 1 below. Sampling and analysis of additional constituents is required pursuant to Table 1 of the Regional Board's August 6, 2001 Letter titled *Requirement for Monitoring of Pollutants in Effluent and Receiving Water to Implement New Statewide Regulations and Policy*.

Table 1. Schedule Of Sampling, Analyses And Observations

SAMPLING STATION		A-001	E-001-D		E-001-S	All C	All P	All OV
TYPE OF SAMPLE	Notes	C-24 [1] [2]	G [1]	C-24 [1] [2]	C-24 [1] [2]	G [1]	O [1]	O [1]
Flow Rate (mgd)	[3]	Cont/D		Cont/D				
BOD <sub>5</sub> 20°C, or CBOD (mg/L & kg/d)	[15]	2/W		2/W				
Chlorine Residual & Dosage (mg/L & kg/d)	[12]				H or continuous			
Oil and Grease (mg/L & kg/d)	[4] [5]			M				
Settleable Matter (mg/L-hr & ft <sup>3</sup> /d)	[5]		Q					
Total Suspended Solids (mg/L & kg/d)	[15]	5/W		5/W				
Total Coliform (MPN/100 ml)			3/W					
Acute Toxicity (% survival)	[6]				M			
Chronic Toxicity	[7]			Q				
pH (s.u.)	[14]		D			Q		
Temperature (°C)			Q			Q		
Dissolved Oxygen (mg/L & % saturation)						Q		
Sulfides, Total & Dissolved (mg/L)	[8]					Q		
Apparent Color (Visual Obs.)						Q		
Un-ionized Ammonia						Q		
Copper (µg/L)				M				
Lead (µg/L)				M				
Mercury (µg/L)	[9]			M				
Nickel (µg/L)				M				
Cyanide (µg/L)	[10]			M				
Bis(2-Ethylhexyl)Phthalate (µg/L)				2/Y				
Aldrin (µg/L)				Q				
4,4'-DDE (µg/L)				2/Y				
Dieldrin (µg/L)				2/Y				
2,3,7,8-TCDD and congeners	[11]			2/Y				
Standard Observations						Q	2W	E
Pretreatment Requirements µg/L or ppb	[13]							

### LEGEND FOR TABLE 1



Types of Samples:

C-24= composite sample, 24 hours (includes continuous sampling, such as for flows)  
Cont.= continuous sampling  
G= grab sample  
O= observation

Frequency of Sampling:

E = Each occurrence  
D = Once each day  
Cont. = continuous monitoring  
Cont/D = continuous monitoring & daily reporting  
M = once each month  
W = once each week  
Y = once each calendar year  
2/Y = Two times a year; one in wet season, one in dry season.  
H = every hour  
Q = once each calendar quarter  
(with at least two-month intervals)

Parameter and Unit Abbreviations:

BOD<sub>5</sub> 20°C = Biochemical Oxygen Demand, 5-day, at 20°C  
CBOD<sub>5</sub> 20°C = Carbonaceous BOD, 5-day, at 20 °C  
TSS = Total Suspended Solids  
MGD = million gallons per day  
mg/L = milligrams per liter  
ml/L-hr = milliliters per liter, per hour  
µg/L = micrograms per liter  
pg/L = picograms per liter  
kg/day = kilograms per day  
kg/mo = kilograms per month

FOOTNOTES FOR TABLE 1

- [1] Indicates sampling is required during the entire year. The Discharger shall use approved USEPA Methods with the lowest Minimum Levels specified in the SIP and described in footnote 1 of effluent limitations B.7, and in the August 6, 2001, letter.
- [2] Composite sampling: 24-hour composites may be made up of discrete grabs collected over the course of a day and volumetrically or mathematically flow-weighted. Samples for cyanide, and organic toxic pollutants, must be made up of discrete grabs, and analyzed separately. Samples for inorganic pollutants may be combined prior to analysis. If only one grab sample will be collected, it should be collected during periods of maximum peak flows. Samples shall be taken on random days.
- [3] Flow Monitoring: Effluent and influent flows shall be measured continuously at Outfalls E-001-D and A-001, and recorded and reported daily
- [4] Oil & Grease Monitoring: Each Oil & Grease sample event shall consist of a composite sample comprised of three grab samples taken at equal intervals during the sampling date, with each grab sample being collected in a glass container. The grab samples shall be mixed in proportion to the instantaneous flow rates occurring at the time of each grab sample, within an accuracy of plus or minus 5 %. Each glass container used for sample collection or mixing shall be thoroughly rinsed with solvent rinsing as soon as possible after use, and the solvent rinsing shall be added to the composite sample for extraction and analysis.
- [5] Grab Samples shall be collected coincident with composite samples collected for the analysis of regulated parameters.
- [6] Acute Toxicity: If specific identifiable substances in the discharge can be demonstrated by the discharger as being rapidly rendered harmless upon discharge to the receiving water, compliance with the acute toxicity limit may be determined after the test samples are adjusted to remove the influence of those substances. Written approval from the Executive Officer must be obtained to authorize such an adjustment. An example is pH adjustment to control the formation of unionized ammonia. In this example, the Discharger must first demonstrate that ammonia is the cause of the observed toxicity using phase 3 (confirmation) toxicity identification evaluations. The Discharge must then show that based on the conditions in the receiving water, the ammonia that is in the discharge does not cause any violation of the un-ionized ammonia receiving water limits outside the zone of initial dilution.

Bioassays: Effluent used for fish bioassays must be dechlorinated prior to testing. Monitoring of the bioassay water shall include, on a daily basis, the following parameters: pH, dissolved oxygen, ammonia nitrogen, and temperature. These

results shall be reported. If a violation of acute toxicity requirements occurs, a new bioassay test shall be started as soon as practicable and testing should continue back to back until compliance is demonstrated.

[7] Chronic Toxicity:

1. Chronic Toxicity Monitoring Requirements

- a. Sampling: The Discharger shall collect 24-hour composite samples of WWTP's effluent at the compliance point station specified in Table 1 of the Self-Monitoring Program, for critical life stage toxicity testing as indicated below. For toxicity tests requiring renewals, 24-hour composite samples collected on consecutive days are required.
- b. Test Species: Chronic toxicity shall be monitored by using critical life stage test(s) and the most sensitive test species identified by screening phase testing or previous testing conducted under the ETCP. The Discharger shall conduct routine monitoring with the species approved by the Executive Officer. At the time of this permit adoption, the approved species is the Water Flea (*Ceriodaphnia dubia*).
- c. Conditions for Accelerated Monitoring: The Discharger shall conduct accelerated monitoring when either of the following conditions is exceeded:
  - (1) Three sample median value of 10 TUC, or
  - (2) Single sample maximum value of 20 TUC.
- d. Methodology: Sample collection, handling and preservation shall be in accordance with U.S. USEPA protocols. The test methodology used shall be in accordance with the references cited in this Permit, or as approved by the Executive Officer. A concurrent reference toxicant test shall be performed for each test.
- e. Dilution Series: The Discharger shall conduct tests at 2.5%, 5%, 10%, 25%, and 50%. The "%" represents percent effluent as discharged.

2. Chronic Toxicity Reporting Requirements

- a. Routine Reporting: Toxicity test results for the current reporting period shall include, at a minimum, for each test:
  - (1) Sample date(s)
  - (2) Test initiation date
  - (3) Test species
  - (4) End point values for each dilution (e.g. number of young, growth rate, percent survival)
  - (5) NOEC value(s) in percent effluent
  - (6) IC<sub>15</sub>, IC<sub>25</sub>, IC<sub>40</sub>, and IC<sub>50</sub> values (or EC<sub>15</sub>, EC<sub>25</sub> ... etc.) in percent effluent
  - (7) TUC values (100/NOEC, 100/IC<sub>25</sub>, or 100/EC<sub>25</sub>)
  - (8) Mean percent mortality (±s.d.) after 96 hours in 100% effluent (if applicable)
  - (9) NOEC and LOEC values for reference toxicant test(s)
  - (10) IC<sub>50</sub> or EC<sub>50</sub> value(s) for reference toxicant test(s)
  - (11) Available water quality measurements for each test (pH, D.O., temperature, conductivity, hardness, salinity, ammonia)
- b. Compliance Summary: The results of the chronic toxicity testing shall be provided in the most recent self-monitoring report and shall include a summary table of chronic toxicity data from at least eleven of the most recent samples. The information in the table shall include the items listed above under Note [7] 2.a, item numbers 1, 3, 5, 6(IC<sub>25</sub> or EC<sub>25</sub>), 7, and 8.

[8] Receiving water analysis for sulfides should be run when dissolved oxygen is less than 5.0 mg/L.

[9] The Discharger may, at their option, sample mercury either as grab or 24-hr composite. Use ultra-clean sampling (USEPA 1669) to the maximum extent practicable, and ultra-clean analytical methods (USEPA 1631) for mercury monitoring. The Discharger may use alternative methods of analysis (such as USEPA 245), if that alternate method has a Minimum Level of 2 ng/L or less.

[10] The Discharger may, at their option, analyze for cyanide as Weak Acid Dissociable Cyanide using protocols specified in Standard Method Part 4500-CN-I, USEPA Method OI 1677, or equivalent alternatives in latest edition. Alternative methods of analysis must be approved by the Executive Officer.

[11] Chlorinated Dibenzodioxins and Chlorinated Dibenzofurans shall be analyzed using the latest version of USEPA Method 1613. Alternative methods of analysis must be approved by the Executive Officer. The analysis shall be capable of achieving

one half the EPA method 1613 MLs. The Discharger shall also collect four liter samples to lower the detection limit to the greatest extent practicable.

- [12] Chlorine Residual Monitoring. During all times when chlorination is used for disinfection of the effluent, effluent chlorine residual concentrations shall be monitored continuously, or by grab samples taken hourly. Chlorine residual concentrations shall be monitored and reported for sampling points both prior to and following dechlorination. Total chlorine dosage (mg/l & kg/day) shall be recorded on a daily basis.
- [13] Pretreatment Program Requirements: see Table 3 below.
- [14] Daily minimum and maximum for pH shall be reported.
- [15] Percent removal for BOD and TSS (effluent vs. influent) shall also be reported.

Table 2. Minimum Levels

For compliance monitoring, analyses shall be conducted using the lowest commercially available and reasonably achievable detection levels. The objective is to provide quantification of constituents sufficient to allow evaluation of observed concentrations with respect to the Minimum Levels given below. All Minimum Levels are expressed as µg/L approximately equal to parts per billion (ppb).

CTR #	Constituent [a]	Types of Analytical Methods [b]						
		GC	GCMS	Color	GFAA	ICPMS	SPGFAA	CVAF
6.	Copper					0.5	2	
7.	Lead					0.5		
8.	Mercury[c]							0.002
9.	Nickel				5	1	5	
14.	Cyanide			5				
68.	Bis(2-Ethylhexyl)Phthalate		5					
102.	Aldrin	0.005						
109.	4,4'-DDE	0.05						
111.	Dieldrin	0.01						
16.	2,3,7,8-TCDD[d]							

Footnotes to Table 2 of Self-Monitoring Program:

- [a] According to the SIP, method-specific factors (MSFs) can be applied. In such cases, this additional factor must be applied in the computation of the reporting limit. Application of such factors will alter the reported ML (as described in section 2.4.1). Dischargers are to instruct laboratories to establish calibration standards so that the ML value is the lowest calibration standard. At no time is the Discharger to use analytical data derived from the extrapolation beyond the lowest point of the calibration curve.
- [b] Laboratory techniques are defined as follows:
- GC = Gas Chromatography;  
GCMS = Gas Chromatography/Mass Spectrometry;  
Color = Colorimetric;  
GFAA = Graphite Furnace Atomic Absorption;  
ICPMS = Inductively Coupled Plasma/Mass Spectrometry;  
SPGFAA = Stabilized Platform Graphite Furnace Atomic Absorption (i.e. EPA 200.9); and  
CVAF = Cold Vapor Atomic Fluorescence.
- [c] Use ultra-clean sampling and analytical methods for mercury monitoring per August 6, 2001 Letter issued to Discharger. The ML for mercury is 0.002 µg/L.
- [d] The SIP does not contain a ML for this constituent.

Table 3. Pretreatment Monitoring Requirements

Constituents / EPA Method	Influent A-001	Effluent E-001	Sludge [2]
VOC / 624	2/Y	2/Y	2/Y
BNA / 625	2/Y	2/Y	2/Y
Metals [1]	M	M	2/Y

Definition of terms in Table 3:

M = once each month

2/Y = twice each calendar year (at about 6 month intervals, once in the dry season, once in the wet season)

VOC = volatile organic compounds

BNA = base/neutrals and acids extractable organic compounds

Key to notes used in Table 3:

[1] Same EPA method used to determine compliance with the respective NPDES permit. The parameters are copper, lead, mercury, nickel, silver, zinc, and cyanide.

[2] EPA approved methods.

### III. Specifications for Sampling and Analysis

Sampling, analyses and observations, and recording and reporting of results shall be conducted in accordance with the schedule given in Table 1 of this SMP, and in accordance with the following specifications, as well as all other applicable requirements given in this SMP. All analyses shall be conducted using analytical methods that are commercially and reasonably available, and that provide quantification of sampling parameters and constituents sufficient to evaluate compliance with applicable effluent limits.

#### A. Influent Monitoring

Influent monitoring identified in Table 1 of Part B of this Self-Monitoring Program is the minimum required monitoring. Additional sampling and analyses may be required in accordance with Pretreatment Program or Pollution Prevention/Source Control Program requirements.

### IV. Recording Requirements

- A. General Recording Requirements are described in Section E of Part A of the Self-Monitoring Program.
- B. Any bypass, overflow, or significant non-compliance incident shall be recorded according to Sections E.1. and E.2. of Part A.

## V. Reporting Requirements

A. General Reporting Requirements are described in Section E of the Regional Board's *Standard Provisions and Reporting Requirements for NPDES Surface Water Discharge Permits*, dated August 1993, and Part A of the Self-Monitoring Program.

B. Modifications to Self-Monitoring Program, Part A:

1. If any discrepancies exist between Part A and Part B of the SMP, Part B prevails.

2. Section C.2.h of Part A shall be amended as follows:

h. When any type of bypass occurs, except for bypasses that are consistent with Prohibition 3, composite samples shall be collected on a daily basis for all constituents at all affected discharge points that have effluent limits for the duration of the bypass.

When bypassing occurs from any treatment process (primary, secondary, chlorination, dechlorination, etc.) in the treatment facilities that is consistent with Prohibition 3, during high wet weather inflow, the self-monitoring program shall include the following sampling and analyses in addition to the Table 1 schedule:

i. When bypassing occurs from any primary or secondary treatment unit(s), composite samples shall be collected for the duration of the bypass event for BOD, TSS, and turbidity analyses, and continuous monitoring of flow. Samples in accordance with proper sampling techniques for all other limited pollutant parameters shall also be collected and retained for analysis if necessary. If BOD, TSS, or turbidity analytical values exceed the effluent limits, daily analysis of the retained samples shall be conducted for all constituents that have effluent limits for the duration of the bypass, until the BOD, TSS, and turbidity values are in compliance with effluent limitations.

ii. When bypassing the chlorination process, grab samples shall be collected at least daily for Fecal Coliform analyses; and continuous monitoring of flow.

iii. When bypassing the dechlorination process, grab samples shall be collected hourly for chlorine residual; and continuous monitoring of flow.

3. Sections C.3. and C.5. are satisfied by participation in the Regional Monitoring Program.

4. Modify Section F.1 as follows:

### Spill Reports

A report shall be made of any spill of oil or other hazardous material. The spill shall be reported by telephone as soon as possible and no later than 24 hours following occurrence or discharger's knowledge of occurrence. Spills shall be reported by telephone as follows:

During weekdays, during office hours of 8 am to 5 pm, to Ray Balcom at the Regional Board:  
Current telephone number: (510) 622 – 2312, (510) 622-2460 (FAX).

During non-office hours, to the State Office of Emergency Services:  
Current telephone number: (800) 852 - 7550.

A report shall be submitted to the Regional Board within five (5) working days following telephone notification, unless directed otherwise by Board staff. A report submitted by facsimile transmission is acceptable for this reporting. The written report shall contain information relative to: . . .

5. Modify Section F.3 as follows:

**Reports of Plant Bypass, Treatment Unit Bypass and Permit Violation**

The following requirements apply to all treatment plant bypasses and significant non-compliance occurrences, except for bypasses under the conditions contained in 40 CFR Part 122.41 (m)(4) as stated in Standard Provision A.13. In the event the Discharger violates or threatens to violate the conditions of the waste discharge requirements and prohibitions or intends to experience a plant bypass or treatment unit bypass due to: . . .

6. Modify Section F.4 as follows:

**Self-Monitoring Reports**

For each calendar month, a self-monitoring report (SMR) shall be submitted to the Regional Board in accordance with the requirements listed in Self-Monitoring Program, Part A. The purpose of the report is to document treatment performance, effluent quality and compliance with waste discharge requirements prescribed by this Order, as demonstrated by the monitoring program data and the Discharger's operation practices. The report shall be submitted to the Board no later than thirty (30) days after the end of the reporting month. . . .

[And add at the end of Section F.4 the following:]

- g. The Discharger has the option to submit all monitoring results in an electronic reporting format approved by the Executive Officer. The discharger is currently submitting SMRs electronically in a format approved by the Executive Officer in a letter dated December 17, 1999, Official Implementation of Electronic Reporting System (ERS). The ERS format includes, but is not limited to, a transmittal letter, summary of violation details and corrective actions, and transmittal receipt. If there are any discrepancies between the ERS requirements and the "hard copy" requirements listed in the SMP, then the approved ERS requirements supercede.

7. Add at the end of Section F.5, Annual Reporting, the following:

- d. A plan view drawing or map showing the Dischargers' facility, flow routing and sampling and observation station locations.

8. Add as Section F.6 the following:

**Reports of Overflows**

Overflows of sewage from the Discharger's collection system, other than overflows specifically addressed elsewhere in this Order and SMP, shall be reported to the Regional Board in accordance with the following:

1. *Overflows in excess of 1,000 gallons*

Overflows in excess of 1,000 gallons shall be reported by telephone and written report, as follows:

- a. Overflows shall be reported by telephone as soon as possible and no later than 24 hours following occurrence or discharger's knowledge of occurrence. Notification shall be made as follows:
  - i. Notify the current Board staff inspector, or case handler, by phone conversation or message, or by facsimile:
    - current staff inspector, Ray Balcom, phone number (510) 622 -2312;
    - current staff case handler: Gayleen Perreira, phone number (510) 622 - 2407;
    - current Regional Board Fax number: (510) 622 - 2460.
  - ii. Notify the State Office of Emergency Services, phone number: (800) 852 - 7550.
- b. Submit a written report of the incident in follow-up to telephone notification. The written report shall be submitted along with the regular self-monitoring report for the reporting period of the incident, unless directed otherwise by Board staff, and shall include the following:
  - Estimated date and time of overflow start and end.
  - Location of overflow (street address or description of location).
  - Estimated volume of overflow.
  - Final disposition of overflowed wastewater (to land, storm drain, surface water body).
  - Include the name of any receiving water body affected.
  - Cause of overflow.
  - Observed impacts to receiving waters if any (e.g., discoloration, fish kill).
  - Corrective actions that were taken to contain, minimize or cleanup the overflow.
  - Future corrective actions planned to be taken to prevent recurrence and time schedule of implementation.
  - Persons or agencies contacted.

2. *Overflows less than 1,000 gallons*

Overflows less than 1,000 gallons shall be reported by written report, as follows:

- a. The discharge shall prepare and retain records of such overflows, with records available for review by Board staff upon request.

- b. The records for these overflows shall include the information as listed in 1.e, above.
- c. A summary of these overflows shall be submitted to the Regional Board annually, as part of the Discharger's Self-Monitoring Program Annual Report.

## **VI. Selected Constituents Monitoring**

- A. Effluent monitoring shall include evaluation for all constituents listed in Table 1 by sampling and analysis of final effluent.
- B. Analyses shall be conducted using the lowest commercially available and reasonably achievable detection levels. The objective is to provide quantification of constituents sufficient to allow evaluation of observed concentrations with respect to respective water quality objectives.

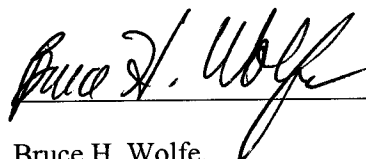
## **VII. Monitoring Methods And Minimum Detection Levels**

The Discharger may use the methods listed in Table 2, above, or alternate test procedures that have been approved by the U.S. EPA Regional Administrator pursuant to 40 CFR 136.4 and 40 CFR 136.5 (revised as of May 14, 1999).

## **VIII. Self-Monitoring Program Certification**

I, Bruce Wolfe, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

- 1. Has been developed in accordance with the procedure set forth in this Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Board Order No. R2-2003-0114.
- 2. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the Discharger, and revisions will be ordered by the Executive Officer.
- 3. Is effective as of February 1, 2004.



Bruce H. Wolfe,  
Executive Officer

## **Enclosure:**

Chronic Toxicity – Definition of Terms and Screening Phase Requirements



**CHRONIC TOXICITY**  
**DEFINITION OF TERMS & SCREENING PHASE REQUIREMENTS**

**I. Definition of Terms**

- A. No observed effect level (NOEL) for compliance determination is equal to  $IC_{25}$  or  $EC_{25}$ . If the  $IC_{25}$  or  $EC_{25}$  cannot be statistically determined, the NOEL shall be equal to the NOEC derived using hypothesis testing.
- B. Effective concentration (EC) is a point estimate of the toxicant concentration that would cause an adverse effect on a quantal, "all or nothing," response (such as death, immobilization, or serious incapacitation) in a given percent of the test organisms. If the effect is death or immobility, the term lethal concentration (LC) may be used. EC values may be calculated using point estimation techniques such as probit, logit, and Spearman-Kärber.  $EC_{25}$  is the concentration of toxicant (in percent effluent) that causes a response in 25% of the test organisms.
- C. Inhibition Concentration (IC) is a point estimate of the toxicant concentration that would cause a given percent reduction in a non-lethal, non-quantal biological measurement, such as growth. For example, an  $IC_{25}$  is the estimated concentration of toxicant that would cause a 25% reduction in average young per female or growth. IC values may be calculated using a linear interpolation method such as EPA's Bootstrap Procedure.
- D. No observed effect concentration (NOEC) is the highest tested concentration of an effluent or a toxicant at which no adverse effects are observed on the aquatic test organisms at a specific time of observation. It is determined using hypothesis testing.

**II. Chronic Toxicity Screening Phase Requirements**

- A. The discharger shall perform screening phase monitoring:
1. Subsequent to any significant change in the nature of the effluent discharged through changes in sources or treatment, except those changes resulting from reductions in pollutant concentrations attributable to pretreatment, source control, and waste minimization efforts, or
  2. Prior to Permit reissuance. Screening phase monitoring data shall be included in the NPDES Permit application for reissuance. The information shall be as recent as possible, but may be based on screening phase monitoring conducted within 5 years before the permit expiration date.
- B. Design of the screening phase shall, at a minimum, consist of the following elements:
1. Use of test species specified in Tables 1 and 2 (attached), and use of the protocols referenced in those tables, or as approved by the Executive Officer;
  2. Two stages:
    - a. Stage 1 shall consist of a minimum of one battery of tests conducted concurrently. Selection of the type of test species and minimum number of tests shall be based on Table 3 (attached); and
    - b. Stage 2 shall consist of a minimum of two test batteries conducted at a monthly frequency using the three most sensitive species based on the Stage 1 test results and as approved by the Executive Officer.
  3. Appropriate controls; and
  4. Concurrent reference toxicant tests.
- C. The discharger shall submit a screening phase proposal to the Executive Officer for approval. The proposal shall address each of the elements listed above.

**TABLE C 1**  
**CRITICAL LIFE STAGE TOXICITY TESTS FOR ESTUARINE WATERS**

SPECIES	SCIENTIFIC NAME	EFFECT	TEST DURATION	REFER- ENCE
alga	( <u>Skeletonema costatum</u> )	growth rate	4 days	1
	( <u>Thalassiosira pseudonana</u> )	growth rate		
red alga	( <u>Champia parvula</u> )	number of cystocarps	7-9 days	3
giant kelp	( <u>Macrocystis pyrifera</u> )	percent germination; germ tube length	48 hours	2
abalone	( <u>Haliotis rufescens</u> )	abnormal shell development	48 hours	2
oyster	( <u>Crassostrea gigas</u> )	abnormal shell development;	48 hours	2
mussel	( <u>Mytilus edulis</u> )	percent survival		2
echinoderms		percent fertilization	1 hour	2
urchins	( <u>Strongylocentrotus purpuratus</u> , <u>S. franciscanus</u> )	percent fertilization	1 hour	2
sand dollar	( <u>Dendraster excentricus</u> )	percent fertilization	1 hour	2
shrimp	( <u>Mysidopsis bahia</u> )	percent survival; growth; fecundity	7 days	3
silversides	( <u>Menidia beryllina</u> )	larval growth rate; percent survival	7 days	3

**Toxicity Test References:**

1. American Society for Testing Materials (ASTM). 1990. Standard Guide for conducting static 96-hour toxicity tests with microalgae. Procedure E 1218-90. ASTM Philadelphia, PA.
2. Short-term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Waters to West Coast Marine and Estuarine Organisms. USEPA\600\R-95\136. 1995.
3. Short-term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Waters to Marine and Estuarine Organisms as specified in 40CFR 136. Currently, this is USEPA/600/4-90/003, July 1994. Later editions may replace this version.

**TABLE C 2**  
**CRITICAL LIFE STAGE TOXICITY TESTS FOR FRESH WATERS**

SPECIES REFERENCE	(Scientific name)	EFFECT	TEST DURATION	
fathead minnow	( <u>Pimephales promelas</u> )	survival; growth rate	7 days	6
water flea	( <u>Ceriodaphnia dubia</u> )	survival; number of young	7 days	6
alga	( <u>Selenastrum capricornutum</u> )	cell division rate	4 days	6

**Toxicity Test Reference:**

6. Horning, W.B. and C.I. Weber (eds.). 1989. Short-term methods for estimating the chronic toxicity of effluents and receiving waters to freshwater organisms. Second edition. U.S. EPA Environmental Monitoring Systems Laboratory, Cincinnati, Ohio. EPA/600/4-89/001.
-

**Attachment D.**

**Documents Available On-line:**

- **Self-Monitoring Program, Part A**
- **Resolution No. 74-10**
- **Staff Report**
- **August 6, 2001 Letter**

**Standard Language And Other References Available Online at**  
**<http://www.swrcb.ca.gov/rwqcb2/Download.htm>**

**Document**

**Standard Provisions and Reporting Requirements, August 1993: Select "Self Monitoring Program Part A NPDES Permits"**

**Resolution No. 74-10: Policy Regarding Waste Discharger's Responsibilities to Develop and Implement Contingency Plans to Assure Continuous Operation of Facilities for the Collection, Treatment and Disposal of Waste**

**Staff Report: Statistical Analysis of Pooled Data from Regionwide Ultra Clean Mercury Sampling for Municipal Dischargers**

**August 6, 2001 Regional Board Letter: Select "Requirement for Monitoring of Pollutants in Effluent and Receiving Water to Implement New Statewide Regulations and Policy"**

**Attachment E.**

**Fact Sheet**

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION  
1515 CLAY STREET, SUITE 1400  
OAKLAND, CA 94612  
(510) 622 - 2300 Fax: (510) 622 - 2460

## **FACT SHEET**

for

NPDES PERMIT and WASTE DISCHARGE REQUIREMENTS for  
**DELTA DIABLO SANITATION DISTRICT**  
ANTIOCH, CONTRA COSTA COUNTY  
NPDES Permit No. CA0038547  
ORDER NO. R2-2003-0114

### **PUBLIC NOTICE:**

#### **Written Comments**

- Interested persons are invited to submit written comments concerning this draft permit.
- Comments must be submitted to the Regional Board no later than 5:00 p.m. on XXX, 2003.
- Send comments to the Attention of Gayleen Perreira.

#### **Public Hearing**

- The draft permit will be considered for adoption by the Board at a public hearing during the Board's regular monthly meeting at: Elihu Harris State Office Building, 1515 Clay Street, Oakland, CA; 1<sup>st</sup> floor Auditorium.
- This meeting will be held on: December 3, 2003, starting at 9:00 am.

#### **Additional Information**

- For additional information about this matter, interested persons should contact Regional Board staff member: Ms. Gayleen Perreira, Phone: (510) 622-2407; email: gp@rb2.swrcb.ca.gov

This Fact Sheet contains information regarding an amendment of waste discharge requirements and National Pollutant Discharge Elimination System (NPDES) permit for the Delta Diablo Sanitation District for municipal wastewater discharges. The Fact Sheet describes the factual, legal, and methodological basis for the sections addressed in the proposed permit and provides supporting documentation to explain the rationale and assumptions used in deriving the effluent limitations.

## **I. INTRODUCTION**

The Delta Diablo Sanitation District (the Discharger), has applied to the Board for reissuance of waste discharge requirements and a permit to discharge treated wastewater to waters of the State and the United States under the National Pollutant Discharge Elimination System (NPDES). The application and Report of Waste Discharge are dated February 20, 2003.

The Discharger owns and operates a wastewater treatment plant (WWTP), located at 2500 Pittsburg-Antioch Highway, Antioch. The WWTP provides secondary treatment of wastewater from domestic and industrial sources from the cities of Antioch, Pittsburg, and Bay Point. The Discharger's service area has a present population of approximately 180,000. The WWTP has average dry weather design capacity to provide secondary level treatment for 16.5 million gallons per day (MGD) of wastewater.

The annual average daily flow rate is approximately 14.2 MGD, and the maximum daily flow rate average has been 20.7 MGD. To address peak flows, the plant has a 2.2 million gallon (MG) flow equalization pond, 1 MG of equalization storage capacity, and 4 MG of storage at the pump stations.

Approximately 7.5 MGD of secondary level treated wastewater from the Discharger's WWTP undergoes tertiary treatment at their Recycle Water Facility (RWF). The product water from the RWF is primarily used as cooling water makeup for the Delta and Los Medanos Energy Centers (Energy Centers), with approximately one percent of that water sent for use by the local Parks and Recreation District (Parks). About 2 MGD of the cooling tower blowdown from the Energy Centers is returned to the Discharger's WWTP and then combined with the plant's secondary level treated wastewater. The mixture of secondary level treated wastewater and cooling tower blowdown undergoes chlorination and dechlorination, and then is discharged.

The Discharger's wastewater conveyance systems transports wastewater flows from the Shore Acres, Bay Point, Pittsburg, and Antioch collection systems to the WWTP through a series of gravity interceptors, pump stations, and force mains that are designed to handle peak dry weather flows. The combined conveyance and collection systems include about 43 miles of major trunk sanitary sewer lines, four flow equalization storage facilities, and seven pump stations. Five pump stations have onsite emergency power systems, and of the other two stations, one has an auxiliary gravity flow line and the other has sufficient sewer line surcharge capacity (12 hours) to allow mobilization of portable pump systems. The discharger has an ongoing program for preventive maintenance and capital improvements for these sewer lines and pump stations in order to ensure adequate capacity and reliability of the collection system.

## II. TREATMENT PROCESS DESCRIPTION

The Discharger's treatment process consists of screening, grit removal, primary clarification; biological treatment by trickling towers and/or aeration basins, and digesters; chlorination, and dechlorination. The water reclaimed for use by the Energy Centers and Parks also receives flocculation, sand filtration, and additional chlorination.

The treated, disinfected and dechlorinated effluent from the WWTP is discharged into New York Slough. The effluent is discharged through a deep water outfall equipped with a diffuser at latitude 38 degrees 01 minutes 40 seconds North and longitude 121 degrees 50 minutes 14 seconds West. The outfall is 400 feet from shore at approximately 46 feet below mean low level. The quality of the discharge is presented in the following table. The table reflects only the detected constituents in the monitoring data obtained during the years of 2000 through 2003.

Table 1. Effluent Discharge Description

<u>Parameter</u>	<u>Median</u>	<u>Daily Maximum</u>
Biochemical Oxygen Demand (BOD <sub>5</sub> ) (mg/L)	14	25
BOD <sub>5</sub> Monthly Removal (%)	95	92.4 <sup>[1]</sup>
Total Suspended Solids (TSS) (mg/L)	14.6	32.1
TSS Monthly Removal (%)	95.1	91.8 <sup>[1]</sup>
Settleable Solids (ml/l-hr)	ND*	0.1 <sup>[2]</sup>
Oil and Grease (mg/L)	ND*	19.7
Residual Chlorine (mg/L)	0.0	11.2 <sup>[3]</sup>
pH <sup>[5]</sup> (s.u.)	7.5	7.8
Total coliform <sup>[6]</sup> (mpn/100 ml)	7	175



Arsenic (µg/L)	ND*	12
Cadmium (µg/L)	ND*	0.4 <sup>[4]</sup>
Chromium III (µg/L)	1.6	2.9
Chromium VI (µg/L)	ND*	2.9
Copper (µg/L)	7.0	12.5
Lead (µg/L)	ND*	2.6 <sup>[4]</sup>
Mercury (µg/L)	0.0116	0.029
Nickel (µg/L)	6.2	14
Selenium (µg/L)	1	4
Silver (µg/L)	ND*	0.8 <sup>[4]</sup>
Zinc (µg/L)	ND*	22
Cyanide (µg/L)	ND*	6
Chloroform (µg/L)	0.55	0.8
Chloromethane (µg/L)	ND*	0.7
Dibromochloromethane (µg/L)	ND*	2.9 <sup>[8]</sup>
1,4-Dichlorobenzene	0.5	0.7
Toluene (µg/L)	ND*	0.7
Phenol (µg/L)	ND*	34
Acenaphthylene (µg/L)	ND*	0.2 <sup>[7]</sup>
Aldrin (µg/L)	ND*	0.017 <sup>[8]</sup>
Pyrene (µg/L)	ND*	0.3 <sup>[8]</sup>
Halomethanes (µg/L)	0.5	0.9
Bromodichloromethane (µg/L)	0.8	1.1
Bromoform (µg/L)	ND*	17 <sup>[8]</sup>
Bromomethane (µg/L)	ND*	1.7
Bis(2-ethylhexyl)phthalate	ND*	46

\*ND = Non-detection

- [1] These values represent the minimum of monthly removal percentages for BOD and TSS.  
 [2] There were only two detected values for settleable solids; both were 0.1 mg/L.  
 [3] Of 913 samples, residual chlorine was detected on four occasions, ranging from 0.3 mg/L to 11.2 mg/L.  
 [4] This represents a 'Detected, but Not Quantified' value.  
 [5] This represents the minimum value for pH.  
 [6] This represents the maximum of the 5-sample moving median reported values.  
 [7] Acenaphthylene was observed twice, both at 0.2 µg/L.  
 [8] This constituent was only detected in one sample.

The U.S. Environmental Protection Agency (U.S. EPA) and the Board have classified this discharge as a major discharge.

Sludge is thickened by dissolved air flotation thickeners, anaerobically digested, and dewatered by centrifuge prior to disposal at an authorized sanitary landfill.

### III. RECEIVING WATERS

**Beneficial Uses:** Beneficial uses for the Sacramento-San Joaquin Delta (hereinafter referred to as the Delta) receiving water, as identified in the Board's June 21, 1995 *Water Quality Control Plan San Francisco Bay Basin (Region 2)* (the Basin Plan) (Table 2-7), and based on known uses of the receiving waters in the vicinity of the discharge, are:

- Agricultural Supply
- Groundwater Recharge

- Industrial Service Supply
- Municipal and Domestic Supply
- Navigation
- Industrial Process Supply
- Water Contact Recreation
- Non-contact Water Recreation
- Ocean Commercial and Sport Fishing
- Wildlife Habitat
- Preservation of Rare and Endangered Species
- Fish Migration
- Fish Spawning
- Estuarine Habitat

Contiguous water bodies of the Delta in the vicinity of the discharge include freshwater, brackish, and saltwater sloughs such as New York Slough. Beneficial uses specific to these areas are not identified in the Basin Plan. The Basin Plan's tributary rule applies the beneficial uses of identified water bodies to its tributaries.

Salinity: The Basin Plan states that the salinity characteristics (i.e., freshwater vs. saltwater) of the receiving water shall be considered in determining the applicable WQOs. Freshwater objectives apply to discharges to waters both lying outside the zone of tidal influence and having salinities lower than 5 parts per thousand (ppt) at least 75 percent of the time. Saltwater objectives shall apply to discharges to waters with salinities greater than 5 ppt at least 75 percent of the time. For discharges to waters with salinities in between the two categories or tidally influenced freshwaters that support estuarine beneficial uses, the objectives shall be the lower of the salt or freshwater objectives, based on ambient hardness, for each substance.

The U.S. EPA's May 18, 2000 *Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California* (the California Toxics Rule – the CTR) states that the salinity characteristics (i.e., freshwater vs. saltwater) of the receiving water shall be considered in determining the applicable WQC. Freshwater criteria shall apply to discharges to waters with salinities equal to or less than one ppt at least 95 percent of the time. Saltwater criteria shall apply to discharges to waters with salinities equal to or greater than 10 ppt at least 95 percent of the time in a normal water year. For discharges to water with salinities in between these two categories, or tidally influenced freshwaters that support estuarine beneficial uses, the criteria shall be the lower of the salt or freshwater criteria, (the latter calculated based on ambient hardness), for each substance.

The receiving water for the subject discharge is New York Slough and is classified as estuarine. Board staff evaluated February 1998 through December 2002 salinity data for New York Slough that was obtained 100 feet downstream from the discharge. These data indicate the receiving water is estuarine by the CTR. While the receiving water may meet the Basin Plan's numeric definition for freshwater, this receiving water falls under the Basin Plan's narrative definition for estuarine water. New York Slough is tidally influenced, and the Delta and Suisun Bay are specifically defined as estuarine in the CTR. Furthermore, the Delta and Suisun Bay are identified as supporting estuarine habitat in the Basin Plan. The reasonable potential analysis (RPA) and effluent limitations in this Order are based on the more stringent of fresh and saltwater objectives/criteria.

Hardness: Some WQOs/WQC are hardness dependent. The City of Antioch's receiving water sampling-station is located upstream, approximately one and one-fourth miles east of the Discharger's outfall and therefore is representative of the Discharger's receiving water. 1734 receiving water hardness data values (hereinafter referred to as receiving water data) were obtained during May 1995 through December 2001 at the City of Antioch's receiving water sampling-station. The minimum observed hardness value is 32 mg/L and the maximum value is 1100 mg/L. The annual median for the receiving water data range from 48 (1995) to 121 mg/L (2001). Section F.2.f Hardness, of the CTR (page 31692), states that the derivations of criteria are most accurate between the hardness values of 25 mg/L to 400 mg/L and therefore Board staff censored the receiving water data by eliminating all hardness values above 400 mg/L. In addition, the USEPA National Ambient Water Quality Criteria recommend a chloride limitation of 230 mg/L for a 4-day average period for aquatic toxicity, and therefore Board staff also eliminated hardness data that was obtained during the same sampling occurrence that the chloride data value is at or above the 230 mg/L limit. To determine a representative hardness value for the CTR's intended level of protection, Board staff used the adjusted geometric mean (AGM) to calculate the 30<sup>th</sup> percentile of the censored receiving water data (A total of 1478 hardness data values), which is the same method used in determining the Water-Effect Ratio (It is believed that hardness plays a similar role as the Water-Effect Ratio in influencing the toxicity of metals.) The AGM is calculated to be 68 mg/L. The following lists the procedure to calculate an AGM:

1. Calculate the logarithms of each hardness value.
2. Calculate the arithmetic mean of the logarithms.
3. Calculate the standard deviation (s) of the logarithms.
4. Calculate the standard error (SE) of the arithmetic mean:  
$$SE = s/\sqrt{n}$$
5. Calculate  $A = \text{arithmetic mean} - t_{0.7} \times SE$   
where  $t_{0.7}$  is the value of Student's  $t$  statistics for a one-sided probability of 0.7 with  $n-1$  degrees of freedom,  $n$ -sample size. When the sample size is large, the Student  $t$  statistics can be approximate by the normal distribution  $z$ -statistics, which is 0.524.
6. Take the antilogarithm of  $A$ , antilog  $A$  is the Adjusted Geometric Mean (AGM).

#### IV. GENERAL RATIONALE AND REGULATORY BASES

Water quality objectives (WQOs), water quality criteria (WQC), effluent limitations, and calculations contained in this Order are based on:

- Sections 301 through 305, and 307 of the Federal *Water Pollution Control Act*, and amendments thereto, as applicable;
- The Regional Board's June 21, 1995 *Water Quality Control Plan San Francisco Bay Basin (Region 2)* (the Basin Plan);
- The State Board's March 2, 2000 *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (the State Implementation Plan or SIP), and as subsequently approved by the Office of Administrative Law and the USEPA;
- USEPA's May 18, 2000 *Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California* (the California Toxics Rule – the CTR);

- USEPA's National Toxics Rule as promulgated [Federal Register Volume 57, 22 December 1992, page 60848] and subsequently amended (the NTR);
- USEPA's *Quality Criteria for Water* [EPA 440/5-86-001, 1986], and subsequent amendments, (the USEPA Gold Book);
- applicable Federal Regulations [40 CFR Parts 122 and 131];
- 40 CFR Part 131.36(b) and amended [Federal Register Volume 60, Number 86, 4 May 1995, pages 22229-22237];
- USEPA's December 10, 1998 *National Recommended Water Quality Criteria* compilation [Federal Register Vol. 63, No. 237, pp. 68354-68364];
- USEPA's December 27, 2002 *Revision of National Recommended Water Quality Criteria* compilation [Federal Register Vol. 67, No. 249, pp. 79091-79095]; and
- Regional Board staff's Best Professional Judgment (BPJ), as defined by:
  - the Basin Plan
  - USEPA Region 9 February 1994 *Guidance For NPDES Permit Issuance*;
  - USEPA's March 1991 *Technical Support Document for Water Quality-Based Toxics Control* (the TSD);
  - USEPA's October 1, 1993 *Policy and Technical Guidance on Interpretation and Implementation of Aquatic Life Metals Criteria*;
  - USEPA's July 1994 *Whole Effluent Toxicity (WET) Control Policy*;
  - USEPA's August 14, 1995 *National Policy Regarding Whole Effluent Toxicity Enforcement*;
  - USEPA's April 10, 1996 *Clarifications Regarding Flexibility in 40 CFR Part 136 Whole Effluent Toxicity (WET) Test Methods*;
  - USEPA Regions 9 & 10's May 31, 1996 *Guidance for Implementing Whole Effluent Toxicity Programs* Final;
  - USEPA's February 19, 1997 *Draft Whole Effluent Toxicity (WET) Implementation Strategy*.

## V. SPECIFIC RATIONALE

Several specific factors affecting the development of limitations and requirements in the proposed Order are discussed as follows:

### A. Recent Plant Performance

Section 402(o) of CWA and 40 CFR § 122.44(l) require that water quality-based effluent limitations (WQBELs) in re-issued permits be at least as stringent as in the previous permit. The SIP specifies that interim effluent limitations, if required, must be based on current treatment facility performance

or on previous permit limitations whichever is more stringent (unless anti-backsliding requirements are met). In determining what constitutes "recent plant performance," best professional judgment (BPJ) was used. Effluent monitoring data collected from January 2000 through February 2003 are considered representative of recent plant performance.

#### **B. Impaired Water Bodies in 303(d) List**

On June 6, 2003, the U.S. EPA approved a revised list of impaired water bodies prepared by the State (hereinafter referred to as the 2003 303(d) list), prepared pursuant to provisions of Section 303(d) of the federal Clean Water Act requiring identification of specific water bodies where it is expected that water quality standards will not be met after implementation of technology-based effluent limitations on point sources. The pollutants impairing the Sacramento-San Joaquin Delta include chlordane, DDT, diazinon, dieldrin, dioxin and furan compounds, mercury, nickel, total PCBs, PCBs (dioxin like), and selenium.

The SIP requires final effluent limitations for all 303(d)-listed pollutants to be based on total maximum daily loads (TMDLs) and wasteload allocation (WLA) results. The SIP and federal regulations also require that final concentration limitations be included for all pollutants with reasonable potential. The SIP requires that where the Discharger has demonstrated infeasibility to meet the final limitations, interim concentration limitations be established in the permit with a compliance schedule in effect until final effluent limitations are adopted. The SIP also requires the inclusion of appropriate provisions for waste minimization and source control.

#### **C. Basis for Prohibitions**

1. Prohibition A.1 (no discharges other than as described in the permit): This prohibition is based on the California Water Code that requires filing of a report of waste discharge before a permit to discharge can be granted.
2. Prohibitions A.2 (10:1 dilution): This permit grants a 10:1 dilution credit for toxic pollutants. Any discharge that achieves less than this could harm beneficial uses, and should thus be prohibited.
3. Prohibition A.3 (no bypass or overflow): This prohibition is based on the previous Order and 40 CFR Part 122.41(m)(4).
4. Prohibition A.4 (flow limit): This prohibition is based on the reliable treatment capacity of the plant. Exceedence of the treatment plant's average dry weather flow design capacity may result in lowering the reliability of compliance with water quality requirements, unless the Discharger demonstrates otherwise through an antidegradation study. This prohibition is based on 40 CFR 122.41(l).
5. Prohibition A.5 (no unauthorized discharge): This prohibition is based on the Clean Water Act, which prohibits unauthorized/unpermitted discharges. This permit makes exemptions for minor flows from the Recycle Water Facility as it is infeasible for those flows to be plumbed back to the Waste Water Treatment Plant without going through the retention basin.

#### **D. Basis for Effluent Limitations**

1. Effluent Limitations B.1: These limitations are technology-based and other limitations representative of, and intended to ensure, adequate and reliable secondary level wastewater treatment. They are at least as stringent as the Basin Plan requirements (Chapter 4, pg 4-8, and Table 4-2, at pg 4-69). The limitations are unchanged from the previous permit. Compliance has been demonstrated by existing plant performance.
2. Effluent Limitation B.2 (pH): This effluent limitation is unchanged from the previous permit. The limitation is based on the Basin Plan (Chapter 4, Table 4-2), which is derived from federal requirements (40 CFR 133.102). This is the previous permit effluent limitation and compliance has been demonstrated by existing plant performance.
3. Effluent Limitation B.3 (BOD and TSS monthly average 85 percent removal): These are standard secondary treatment requirements and previous permit effluent limitations based on Basin Plan requirements (Table 4-2, pg. 4-69), derived from federal requirements (40 CFR 133.102; definition in 133.101). Compliance has been demonstrated by existing plant performance for ordinary flows (dry weather flows and most wet weather flows). During the past few years, the Discharger has met these requirements.
4. Effluent Limitation B.4 (Bacteria): The purpose of this effluent limitation is to ensure adequate disinfection of the discharge in order to protect beneficial uses of the receiving waters. Effluent limitations are based on WQOs for bacteriological parameters for receiving water beneficial uses. WQOs are given in terms of parameters, which serve as surrogates for pathogenic organisms. The traditional parameter in this regard is total coliform. The Basin Plan's Table 4-2, page 4-69, and its footnotes allow alternate coliform limitations to be substituted for total coliform limitations provided that the discharger conclusively demonstrates "through a program approved by the Regional Board that such substitution will not result in unacceptable adverse impacts on the beneficial uses of the receiving waters". The effluent limitations in the permit are given as limitations for total coliform and are based on the Basin Plan WQOs (BP, Table 4-2, footnote (a)). If the study demonstrate that the exceedances of the total coliform limits are solely due to the study, and that there is compliance in the receiving water with the bacteriological objectives specified in the Basin Plan, the Board may consider establishing alternate limitations. Consistent with the Basin Plan (Table 4-2, footnote "d"), the Board can allow the Discharger to use alternate limitations of bacteriological quality if the Discharger can establish to the satisfaction of the Board that the use of bacteria limitations will not result in unacceptable adverse impacts on the beneficial uses of the receiving water.
5. Effluent Limitation B.5 (Whole Effluent Acute Toxicity): The Basin Plan specifies a narrative objective for toxicity, requiring that all waters shall be maintained free of toxic substances in concentrations that are lethal to or produce other detrimental response on aquatic organisms. Detrimental response includes but is not limited to decreased growth rate, decreased reproductive success of resident or indicator species, and/or significant alternations in population, community ecology, or receiving water biota. These effluent toxicity limitations are necessary to ensure that this objective is protected. The whole effluent acute toxicity limitations for an eleven-sample median and an eleven-sample 90<sup>th</sup> percentile value are consistent with the previous Order and are based on the Basin Plan (Table 4-4, pg. 4-70). The previous Order required testing of two species. The limitations remain unchanged in this Order. This Order allows compliance monitoring with only one fish species, whichever is determined to be the most sensitive species, either fathead minnow or rainbow trout. This is consistent with the Basin Plan (pg 4-9) since the Discharger has not exceeded the previous Order's acute toxicity limitations during the previous three years. During 2000-2002, the eleven-sample median survival of both species was between

95 and 100 percent. The 90<sup>th</sup> percentile survival for both species was between 80 and 100 percent.

6. Effluent Limitation B.6 (Whole Effluent Chronic Toxicity): The chronic toxicity objective/limitation is based on the Basin Plan's narrative toxicity objective on page 3-4.

7. Effluent Limitation B.7 (Toxic Substances):

a. **Reasonable Potential Analysis (RPA)**

Code of Federal Regulations Title 40, Part 122.44(d)(1)(i) (40 CFR 122.44(d)(1)(i)) specifies that permits must include WQBELs for all pollutants "which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard" (have Reasonable Potential). Thus, assessing whether a pollutant has Reasonable Potential is the fundamental step in determining whether or not a WQBEL is required. The following sections describe the RPA and the results of such an analysis for the pollutants identified in the Basin Plan and the CTR.

- i) *WQOs and WQC*: The RPA uses Basin Plan WQOs, including narrative toxicity objectives in the Basin Plan, and applicable WQC in the CTR/NTR. The Basin Plan objectives and CTR criteria are shown in Attachment 1 of this Fact Sheet.
- ii) *Methodology*: The RPA uses the methods and procedures prescribed in Section 1.3 of the SIP. Board staff has analyzed the effluent and background data and the nature of facility operations to determine if the discharge has reasonable potential to cause or contribute to exceedences of applicable SSOs or WQC. Attachment 1 of this Fact Sheet shows the step-wise process described in Section 1.3 of the SIP.
- iii) *Effluent and background data*: The RPA is based on effluent data collected by the Discharger from January 2000 through February 2003 for metals and August 2000 through February 2003 for certain organic priority pollutants (see Attachment 1 of this Fact Sheet). The RMP station at Sacramento River has been sampled for most of the inorganic and some of the organic toxic pollutants during the period from 1993 to 2000; however, not all the constituents listed in the CTR were analyzed by the RMP during this time. On May 15, 2003, a group of several San Francisco Bay Region dischargers (known as the Bay Area Clean Water Agencies, or BACWA) submitted a collaborative receiving water study, entitled the *San Francisco Bay Ambient Water Monitoring Interim Report*. This report addresses monitoring results from sampling events in 2002 and 2003 for the remaining priority pollutants not monitored by the RMP. The RPA was conducted and the WQBELs were calculated using RMP data from 1993 through 2000 for inorganics and organics at the Sacramento River station, and additional data from the BACWA *Ambient Water Monitoring Interim Report* for the Sacramento River RMP station.
- iv) *RPA determination*: The RPA results are shown below in Table B and Attachment 1 of this Fact Sheet. The pollutants that exhibit RP are copper, lead, mercury, nickel, cyanide, bis(2-ethylhexyl)phthalate, aldrin, 4,4'-DDE, dieldrin, and dioxin and furans.

**Table B. Summary of Reasonable Potential Results**

# in CTR	PRIORITY POLLUTANTS	MEC or Minimum DL <sup>1</sup> (µg/L)	Governing WQO/WQC (µg/L)	Maximum Background (µg/L)	RPA Results <sup>2</sup>
1	Antimony	0.8	4300	0.337	N
2	Arsenic	12	36	3.65	N
4	Cadmium	0.04	0.84	0.06	N
5b	Chromium (VI)	2.6	11	NA	N
6	Copper	12.1	3.73	9.9	Y
7	Lead	0.39	1.95	2.35	Y
8	Mercury	0.029	0.025	0.0377	Y
9	Nickel	14	7.1	21.8	Y
10	Selenium	4	5.0	0.3	N
11	Silver	0.8	2.09	0.0566	N
12	Thallium	0.03	6.3	0.14	N
13	Zinc	22	58	18.2	N
14	Cyanide	6	1.0	0.5	Y
16	2,3,7,8-TCDD (Dioxin)	6.46E-08	1.4E-08	4.8E-08	Y
17	Acrolein	3	780	0.5	N
18	Acrylonitrile	1	0.66	0.05	N
19	Benzene	0.3	71	0.05	N
20	Bromoform	17	360	0.5	N
21	Carbon Tetrachloride	0.3	4.4	0.06	N
22	Chlorobenzene	0.3	21000	0.5	N
23	Chlorodibromomethane	2.9	34	0.05	N
24	Chloroethane	0.3	NA	0.5	Uo
25	2-Chloroethylvinyl Ether	1	NA	0.5	Uo
26	Chloroform	0.8	NA	0.5	Uo
27	Dichlorobromomethane	1.1	46	0.05	N
28	1,1-Dichloroethane	0.3	NA	0.05	Uo
29	1,2-Dichloroethane	0.3	99	0.04	N
30	1,1-Dichloroethylene	0.3	3.2	0.5	N
31	1,2-Dichloropropane	0.3	39	0.05	N
32	1,3-Dichloropropylene	0.6	1700	NA	N
33	Ethylbenzene	0.3	29000	0.5	N
34	Methyl Bromide	1.7	4000	0.5	N
35	Methyl Chloride	0.7	NA	0.5	Uo
36	Methylene Chloride	2	1600	0.5	N
37	1,1,2,2-Tetrachloroethane	0.3	11	0.05	N
38	Tetrachloroethylene	0.3	8.85	0.05	N
39	Toluene	0.7	200000	0.3	N
40	1,2-Trans-Dichloroethylene	0.3	140000	0.5	N
41	1,1,1-Trichloroethane	0.3	NA	0.5	Uo
42	1,1,2-Trichloroethane	0.3	42	0.05	N
43	Trichloroethylene	0.3	81	0.5	N
44	Vinyl Chloride	0.3	525	0.5	N
45	2-Chlorophenol	5	400	1.2	N
46	2,4-Dichlorophenol	5	790	1.3	N
47	2,4-Dimethylphenol	2	2300	1.3	N
48	2-Methyl-4,6-Dinitrophenol	5	765	1.2	N
49	2,4-Dinitrophenol	5	14000	0.7	N



# in CTR	PRIORITY POLLUTANTS	MEC or Minimum DL <sup>1</sup> (µg/L)	Governing WQO/WQC (µg/L)	Maximum Background (µg/L)	RPA Results <sup>2</sup>
50	2-Nitrophenol	5	NA	1.3	Uo
51	4-Nitrophenol	5	NA	1.6	Uo
52	3-Methyl-4-Chlorophenol	1	NA	1.1	Uo
53	Pentachlorophenol	1	7.9	1	N
54	Phenol	34	4600000	1.3	N
55	2,4,6-Trichlorophenol	5	6.5	1.3	N
56	Acenaphthene	5	2700	0.005	N
57	Acenaphthylene	0.2	NA	0.00012	Uo
58	Anthracene	0.3	110000	0.0058	N
59	Benzydine	5	0.00054	0.0015	N
60	Benzo(a)Anthracene	0.3	0.049	0.0011	N
61	Benzo(a)Pyrene	0.3	0.049	0.00032	N
62	Benzo(b)Fluoranthene	0.3	0.049	0.0019	N
63	Benzo(ghi)Perylene	0.1	NA	0.00062	Uo
64	Benzo(k)Fluoranthene	0.3	0.049	0.00093	N
65	Bis(2-Chloroethoxy)Methane	5	NA	0.3	Uo
66	Bis(2-Chloroethyl)Ether	1	1.4	0.3	N
67	Bis(2-Chloroisopropyl)Ether	2	170000	NA	N
68	Bis(2-Ethylhexyl)Phthalate	46	5.9	26.8	Y
69	4-Bromophenyl Phenyl Ether	5	NA	0.23	Uo
70	Butylbenzyl Phthalate	5	5200	0.52	N
71	2-Chloronaphthalene	5	4300	0.3	N
72	4-Chlorophenyl Phenyl Ether	5	NA	0.3	Uo
73	Chrysene	0.3	0.049	0.001	N
74	Dibenzo(a,h)Anthracene	0.1	0.049	0.00067	N
75	1,2 Dichlorobenzene	0.3	17000	0.8	N
76	1,3 Dichlorobenzene	0.3	2600	0.8	N
77	1,4 Dichlorobenzene	0.7	2600	0.8	N
78	3,3-Dichlorobenzidine	5	0.077	0.004	N
79	Diethyl Phthalate	2	120000	0.24	N
80	Dimethyl Phthalate	2	2900000	0.24	N
81	Di-n-Butyl Phthalate	5	12000	1.72	N
82	2,4-Dinitrotoluene	5	9.1	0.27	N
83	2,6-Dinitrotoluene	5	NA	0.29	Uo
84	Di-n-Octyl Phthalate	5	NA	0.38	Uo
85	1,2-Diphenylhydrazine	1	0.54	0.0087	N
86	Fluoranthene	5	370	0.003	N
87	Fluorene	0.05	14000	0.0021	N
88	Hexachlorobenzene	1	0.00077	0.000053	N
89	Hexachlorobutadiene	1	50	0.3	N
90	Hexachlorocyclopentadiene	5	17000	0.31	N
91	Hexachloroethane	1	8.9	0.2	N
92	Indeno(1,2,3-cd) Pyrene	0.05	0.049	0.0013	N
93	Isophorone	1	600	0.3	N
94	Naphthalene	5	NA	0.0028	Uo
95	Nitrobenzene	1	1900	0.25	N
96	N-Nitrosodimethylamine	5	8.1	0.3	N

# in CTR	PRIORITY POLLUTANTS	MEC or Minimum DL <sup>1</sup> (µg/L)	Governing WQO/WQC (µg/L)	Maximum Background (µg/L)	RPA Results <sup>2</sup>
97	N-Nitrosodi-n-Propylamine	5	1.4	0.001	N
98	N-Nitrosodiphenylamine	1	16	0.001	N
99	Phenanthrene	0.05	NA	<b>0.0041</b>	Uo
100	Pyrene	0.05	11000	<b>0.0025</b>	N
101	1,2,4-Trichlorobenzene	5	NA	0.3	Uo
102	Aldrin	<b>0.017</b>	0.00014	NA	Y
103	alpha-BHC	0.01	0.013	<b>0.000347</b>	N
104	beta-BHC	0.005	0.046	<b>0.000118</b>	N
105	gamma-BHC	0.01	0.063	<b>0.0010032</b>	N
106	delta-BHC	0.005	NA	<b>0.000038</b>	Uo
107	Chlordane	0.01	0.00059	<b>0.000302</b>	N
108	4,4'-DDT	0.01	0.00059	<b>0.000349</b>	N
109	4,4'-DDE	0.01	0.00059	<b>0.00092</b>	Y
110	4,4'-DDD	0.01	0.00084	<b>0.000347</b>	N
111	Dieldrin	0.01	0.00014	<b>0.00038</b>	Y
112	alpha-Endosulfan	0.01	0.0087	<b>0.000036</b>	N
113	beta-Endosulfan	0.01	0.0087	<b>0.000042</b>	N
114	Endosulfan Sulfate	0.01	240	<b>0.0002</b>	N
115	Endrin	0.01	0.0023	<b>0.000019</b>	N
116	Endrin Aldehyde	0.01	0.81	NA	CD
117	Heptachlor	0.01	0.00021	NA	CD
118	Heptachlor Epoxide	0.01	0.00011	<b>0.000097</b>	N
119-125	PCBs	0.7	0.00017	NA	CD
126	Toxaphene	0.5	0.0002	NA	CD
	Tributyltin	<b>0.008</b>	0.01	0.002	N
	Total PAHs	0.2	15.0	0.0333	N

- 1) Maximum Effluent Concentration (MEC) in bold is the actual detected MEC, otherwise the MEC shown is the minimum detection level.  
NA = Not Available (there is not monitoring data for this constituent).
- 2) RP = Yes, if either MEC or Background > WQO/WQC.  
RP = No, if both MEC or background < WQO/WQC or all effluent concentrations non-detect and background < WQO/WQC or no background available.  
RP = Uo (undetermined if no objective promulgated).  
RP = CD (Cannot determine due to lack of data)

- v) *Constituents with limited data:* The Board's August 6, 2001 Letter from Board staff to all permittees, required the Discharger to initiate or continue to monitor for those pollutants in this category using analytical methods that provide the best detection limits reasonably feasible. Since monitoring for these pollutants has not been required long enough, reasonable potential could not be determined for some of the organic priority pollutants due to the lack of data. These pollutants' RP will be reevaluated in the future to determine whether there is a need to add numeric effluent limitations to the permit or to continue monitoring.
- vi) *Pollutants with no reasonable potential:* WQBELs are not included in the Order for constituents that do not have reasonable potential to cause or contribute to exceedence of applicable WQOs or WQC. However, monitoring for those pollutants is still required, under the provisions of the Board's August 6, 2001 Letter. If concentrations of these constituents

are found to have increased significantly, the Discharger will be required to investigate the source(s) of the increase(s). Remedial measures are required if the increases pose a threat to water quality in the receiving water.

- vii) *Permit reopener*: The permit includes a reopener provision to allow numeric effluent limitations to be added for any constituent that in the future exhibits reasonable potential to cause or contribute to exceedance of a WQO or WQC. This determination, based on monitoring results, will be made by the Board.

**b. Dilution**

The previous permit suggested the outfall may achieve a dilution of 30:1. However, the Discharger has not provided any documentation with its application to substantiate this. The Board believes a conservative 10:1 dilution credit for discharges of non-bioaccumulative pollutants to the New York Slough and the Delta is necessary for protection of beneficial uses. The basis for limiting the dilution credit is based on SIP provisions in Section 1.4.2. The following outlines the basis for derivation of the dilution credit:

- i). Due to the complex hydrology of the Delta, a mixing zone cannot be accurately established.
- ii). Previous dilution studies do not fully account for the cumulative effects of other wastewater discharges to the system.
- iii). The SIP allows limiting a mixing zone and dilution credit for persistent pollutants (e.g., copper, lead, and nickel).

The main justification for using a 10:1 dilution credit is uncertainty in accurately determining ambient background and uncertainty in accurately determining the mixing zone in a complex estuarine system with multiple wastewater discharges.

- i). **Complex Estuarine System Necessitates Far-Field Background** - The SIP allows background to be determined on a discharge-by-discharge or water body-by-water body basis (SIP section 1.4.3). Consistent with the SIP, Board staff has chosen to use a water body-by-water body basis because of the uncertainties inherent in accurately characterizing ambient background in a complex estuarine system on a discharge-by-discharge basis.

With this in mind, the Sacramento River Station also fits the guidance for ambient background in the SIP compared to other stations in the Regional Monitoring Program. Section 1.4.3 of the SIP specifies that "preference should be given to...concentrations immediately upstream or near the discharge, but not within an allowed mixing zone for the discharge." The SIP further states that data are applicable if they are "representative of the ambient receiving water column that will mix with the discharge." The Sacramento River station is upstream, not within a mixing zone, and does represent water that will mix with the discharge. The Sacramento River is the primary source of fresh inflow water to the Delta and its flow varies seasonally. Salt water also influences Suisun Bay and the Delta through diurnal tidal currents but its influence is generally less in the Delta, and less during the wet seasons when delta outflow is the highest (Jan-April).

- ii). **Uncertainties Prevent Accurate Mixing Zones in Complex Estuarine Systems** - There are uncertainties in accurately determining the mixing zones for each discharge. The models that have been used by dischargers to predict dilution have not considered the three-

dimensional nature of the currents in the estuary resulting from the interaction of tidal flushes and seasonal fresh water outflows. Salt water is heavier than fresh water. Colder salt water from the ocean flushes in twice a day generally under the warmer fresh rivers waters that flows out annually. When these waters mix and interact, complex circulation patterns occur due to the different densities of these waters. These complex patterns occur throughout the estuary but are most prevalent in the San Pablo Bay, Carquinez Strait, and Suisun Bay areas. The locations change depending on the strength of each tide and the variable rate of delta outflow. Additionally, sediment loads to the Bay from the Central Valley also change on a longer-term basis. These changes can result in changes to the depths of different parts of the Bay making some areas more shallow and/or other areas more deep. These changes affect flow patterns that in turn can affect the initial dilution achieved by a discharger's diffuser.

- iii). **Dye studies do not account for cumulative effects from other discharges** - The tracer and dye studies conducted are often not long enough in duration to fully assess the long residence time of a portion of the discharge that is not flushed out of the system. In other words, some of the discharge, albeit a small portion, makes up part of the dilution water. So unless the dye studies are of long enough duration, the diluting effect on the dye measures only the initial dilution with "clean" dilution water rather than the actual dilution with "clean" dilution water plus some amount of original discharge that resides in the system. Furthermore, both models and dye studies that have been conducted have not considered the effects of discharges from other nearby discharge sources, nor the cumulative effect of discharges from over 20 other major dischargers to San Francisco Bay system. While it can be argued the effects from other discharges are accounted for by factoring in the local background concentration in calculating the limitations, accurate characterization of local background levels are also subject to uncertainties resulting from the interaction of tidal flushing and seasonal fresh water outflows described above.
- iv). **Mixing Zone Is Further Limited for Persistent Pollutants** - Discharges to the Bay Area waters are not completely-mixed discharges as defined by the SIP. Thus, the dilution credit should be determined using site-specific information for incompletely-mixed discharges. The SIP in section 1.4.2.2 specifies that the Regional Board "significantly limit a mixing zone and dilution credit as necessary... For example, in determining the extent of ... a mixing zone or dilution credit, the RWQCB shall consider the presence of pollutants in the discharge that are ... persistent." The SIP defines persistent pollutants to be "substances for which degradation or decomposition in the environment is nonexistent or very slow." The pollutants at issue here are persistent pollutants (e.g., copper, lead, and nickel). The dilution studies that estimate actual dilution do not address the effects of these persistent pollutants in the Bay environment, such as their long-term effects on sediment concentrations."

c. **Mass Loading, and Mass Emission Limitations for Mercury**

The Order contains a mass emission limitation for mercury because the Regional Board has determined that there is no additional assimilative capacity for mercury in the San Francisco Bay. This determination is consistent with SIP Section 2.1.1 requirements that the Regional Board consider whether additional assimilative capacity exists for 303(d)-listed bioaccumulative pollutants. That determination also considered the fact that a fish consumption advisory currently exists to protect human health from elevated mercury concentrations in fish taken from San Francisco Bay.

d. **Final Water Quality-Based Effluent Limitations**

The final WQBELs were developed for the toxic and priority pollutants that were determined to have reasonable potential to cause or contribute to exceedences of the WQOs or WQC. Final effluent limitations were calculated based on appropriate WQOs /WQC and the appropriate procedures specified in Section 1.4 of the SIP (See Attachment 2 of this Fact Sheet). For the purpose of the Proposed Order, final WQBELs refer to all non-interim effluent limitations. The WQOs or WQC used for each pollutant with Reasonable Potential is indicated in Table C below as well as in Attachment 2.

**Table C. Water Quality Objectives/Criteria for Pollutants with RP**

Pollutant	Chronic WQO/WQC (µg/L)	Acute WQO/WQC (µg/L)	Human Health WQC (µg/L)	Basis of Lowest WQO /WQC Used in RP
Copper	3.73	5.78	--	CTR
Lead	1.95	50	--	BP
Mercury	0.025	--	--	BP
Nickel	7.1	140	--	BP
Cyanide	1.0	1.0	--	CTR
Bis(2-Ethylhexyl)Phthalate	--	--	5.9	CTR
Aldrin	--	--	0.00014	CTR
4,4'-DDE	--	--	0.00059	CTR
Dieldrin	--	--	0.00014	CTR
TCDD TEQ	--	--	1.3E-08	BP

e. **Comparison to Previous Permit Limitations**

The effluent limitations for arsenic, cadmium, chromium (VI), selenium, silver, zinc, tributyltin, 1,2 dichlorobenzene, 1,3 dichlorobenzene, 1,4 dichlorobenzene, benzene, chloroform, dichloromethane, halomethanes, toluene, 2,4 dichlorophenol, 2,4,6 trichlorophenol, 4-chloro-3-methylphenol, fluoranthene, hexachlorobenzene, pentachlorophenol, phenol, alpha-BHC, beta-BHC, chlordane, endosulfan, endrin, gamma-BHC, heptachlor, heptachlor epoxide, toxaphene, and PCBs have been discontinued because there is no demonstration of Reasonable Potential, and therefore, no WQBELs are required. For copper and nickel, the interim performance-based effluent limitation (IPBL) is more stringent than the previous permit limitation; therefore, it has been included in this Order. For mercury, cyanide, and dioxin TEQ, the interim limitation is based on the previous limitation. For aldrin, 4,4'-DDE and, dieldrin, the interim limitations are based on their respective MLs. The previous Order does not include limitations for Bis(2-ethylhexyl)Phthalate.

f. **Interim Limitations**

Interim effluent limitations were derived for those constituents (copper, mercury, nickel, cyanide, bis(2-ethylhexyl)phthalate, aldrin, 4,4'-DDE, and dieldrin) for which the Discharger has shown infeasibility of complying with the respective final limitations and has demonstrated that compliance schedules are justified based on the Discharger's source control and pollution minimization efforts in the past and continued efforts in the present and future. The interim effluent concentration limitation for copper and nickel are based on recent plant performance.

The interim limitation for cyanide and dioxin TEQ are based on the previous permit daily average effluent limitations. The interim concentration and dry weather mass effluent limitations were derived for mercury pending completion of the mercury TMDL and WLAs. The interim limitation for bis(2-ethylhexyl)phthalate is based on the maximum effluent concentration. Interim limitations were established for aldrin, 4,4'-DDE, and dieldrin based on their respective MLs. The interim limitations are also discussed in more detail below.

**g. Feasibility Evaluation**

The Discharger submitted a feasibility study on June 17, 2003 for copper, lead, mercury, nickel, cyanide, bis(2-ethylhexyl)phthalate, aldrin, 4,4'-DDE, dieldrin, and dioxin TEQ. For constituents that Board staff could perform a meaningful statistical analysis (i.e., copper, mercury, and nickel), self-monitoring data from 2000-2003 were used to compare the mean, 95<sup>th</sup> percentile, and 99<sup>th</sup> percentile with the long-term average (LTA), AMEL, and MDEL to confirm the infeasibility of the Discharger to comply with WQBELs. However, if the LTA, AMEL, and MDEL all exceed the mean, 95<sup>th</sup> percentile, and 99<sup>th</sup> percentile, it is feasible for the Discharger to comply with WQBELs.

**Table D: Summary of Feasibility Analysis**

Constituent	Unit	Mean / LTA	95 <sup>th</sup> / AMEL	99 <sup>th</sup> / MDEL	Feasible to Comply
Copper	µg/l	6.64 > 2.87	10.23 > 3.45	NA	No
Mercury	µg/l	0.014 > 0.011	0.028 > 0.019	NA	No
Nickel	µg/l	6.35 > 4.19	12.7 > 6	NA	No

For lead and cyanide, the limited detected data preclude any meaningful statistical evaluation of the waste water treatment plant's performance to confirm infeasibility. For bis(2-ethylhexyl)phthalate, aldrin, and dioxin TEQ, the limited data also preclude any meaningful statistical evaluation of the waste water treatment plant's performance to confirm infeasibility. The MECs therefore, were compared to the WQBELs to determine if the Discharger can achieve immediate compliance with these final limitations (see Table E below).

**Table E: Summary of Feasibility Analysis**

Constituent	Unit	AMEL	MDEL	MEC	Is MEC > AMEL	Is MEC > MDEL	Feasible to Comply
Lead	µg/l	1.6	3.2	0.39	No	No	Yes
Cyanide	µg/l	2.74	5.5	6	Yes	Yes	No
Bis(2-Ethylhexyl)Phthalate	µg/l	5.9	11.84	46	Yes	Yes	No
Aldrin	µg/l	0.00014	0.00028	0.017	Yes	Yes	No
dioxin TEQ	pg/l	0.013	0.026	.065	Yes	Yes	No

For 4,4'-DDE, and dieldrin, because the effluent data consisted of all non detect values, and since all of the detection limits were reported higher than the WQC, a statistical or comparative evaluation could not be done. With the MLs above the respective WQBELs, the Discharger cannot accurately determine and the Board cannot verify if it is feasible for the Discharger to comply.

This permit establishes compliance schedules until January 31, 2009 for copper, cyanide, bis(2-ethylhexyl)phthalate, aldrin, 4,4'-DDE, and dieldrin. This permit establishes a compliance schedule until January 31, 2014 for dioxin TEQ. For mercury and nickel, this permit establishes a compliance schedule until March 30, 2010. However, new data or the outcome of the studies described in this Order, may conclusively determine that the Discharger can or cannot comply with WQBELs, and whether the Discharger triggers Reasonable Potential, and therefore, based

on this new determination, or SSOs, or waste load allocations from the TMDLs, the Board may re-evaluate the IPBLs and compliance deadlines.

During the compliance schedules, interim limitations are included based on current treatment facility performance or on previous permit limitations, whichever is more stringent to maintain existing water quality. The Board may take appropriate enforcement actions if interim limitations and requirements are not met.

- i) Copper – Further Discussion and Rationale for Interim Effluent Limitation: Interim effluent limitation is given for copper since the Discharger has demonstrated and the Board verified that the final effluent limitations calculated according to the SIP (AMEL of 3.5  $\mu\text{g/L}$  and MDEL of 4.8  $\mu\text{g/L}$ ) will be infeasible to meet. The SIP requires the interim numeric effluent limitation for the pollutant be based on either current treatment facility performance, or on the previous Order's limitation, whichever is more stringent. Self-monitoring data from 2000 through 2003 indicate that effluent copper concentrations ranged from <5  $\mu\text{g/L}$  to 12.1  $\mu\text{g/L}$ . Board staff calculated an IPBL of 16  $\mu\text{g/L}$  (3 standard deviations above the mean), which is more stringent than the daily average limitation of 78  $\mu\text{g/L}$  contained in the previous Order. To comply with the SIP, this Order establishes the IPBL at 16  $\mu\text{g/L}$  as a daily maximum.
- ii) Mercury - Further Discussion and Rationale for Interim Effluent Limitations: Interim effluent limitation is given for mercury since the Discharger has demonstrated and the Board verified that the final effluent limitations calculated according to the SIP (AMEL of 0.02  $\mu\text{g/L}$  and MDEL of 0.05  $\mu\text{g/L}$ ) will be infeasible to meet. The SIP requires the interim numeric effluent limitation for the pollutant be based on either current treatment facility performance, or on the previous Order's limitation, whichever is more stringent. The performance-based effluent limitations, 0.023  $\mu\text{g/L}$  for advanced secondary treatment plants and 0.087  $\mu\text{g/L}$  for secondary treatment plants, were calculated statistically using ultra-clean mercury concentration data (*Staff Report: Statistical Analysis of Pooled Data from Region-wide Ultra-clean Sampling, 2000*). The previous Order included a monthly average limitation of 0.084  $\mu\text{g/L}$ , which is more stringent than the performance-based effluent limitation. To comply with the SIP, this Order establishes the IPBL at 0.084  $\mu\text{g/L}$  as a monthly average.

In other Orders, the Board has established interim mercury mass-based effluent limitations based on actual treatment plant performance to maintain current loadings until a TMDL is established. This Order establishes an interim dry weather mercury mass-based effluent limitation of 0.038 kg/month. This limitation is calculated based on the average monthly concentration-based effluent limitation (0.02  $\mu\text{g/L}$ ) and the dry weather design capacity of the treatment plant (16.5 mgd). This interim mass limitation only applies during the dry weather season (May through October). The Board has determined that this approach to calculating a mass-based limitation for this Discharger is appropriate for the following reasons: (1) recent monitoring data show very low levels of mercury in the discharge, well below the applicable WQC, (2) the interim concentration limitation, which is based on the previous permit's monthly average limitation and is more stringent than the statistically derived interim performance-based effluent limitations identified in a 2001 staff report, will ensure that mercury levels remain low in the discharge, (3) the Discharger will continue to identify and, to the extent feasible, address mercury sources under its pollution prevention program, and (4) the interim mass limitation based on the design flow will preclude any

significant increases in mass loadings from the WWTP. Overall, the Discharger already has minimized mercury influent loadings to the treatment plant and provided for a high level of mercury removal in the treatment process. The Board anticipates that it is unlikely that the TMDL will require additional reductions in mercury loadings beyond current treatment levels. Yet, to complement the dry weather interim mass limitation, a provision is included in this Order, under the heading *Advanced Mercury Source Reduction Program*, requiring the Discharger to implement an aggressive outreach and collection program that by January 2007 has the goal of increasing collection of fluorescent tubes by five times from current levels. The previous permit, Order No. 93-142, did not include mass-based effluent limitations for mercury.

- iii) Nickel – Further Discussion and Rationale for Interim Effluent Limitation: Interim effluent limitation is given for nickel since the Discharger has demonstrated and the Board verified that the final effluent limitations calculated according to the SIP (AMEL of 6  $\mu\text{g/L}$  and MDEL of 11  $\mu\text{g/L}$ ) will be infeasible to meet. The SIP requires the interim numeric effluent limitation for the pollutant be based on either current treatment facility performance, or on the previous Order's limitation, whichever is more stringent. Self-monitoring data from 2000 through 2003 indicate that effluent nickel concentrations ranged from 4  $\mu\text{g/L}$  to 14  $\mu\text{g/L}$ . Board staff calculated an IPBL of 20  $\mu\text{g/L}$  (3 standard deviations above the mean), which is more stringent than the daily average limitation of 71  $\mu\text{g/L}$  contained in the previous Order. To comply with the SIP, this Order establishes the IPBL at 20  $\mu\text{g/L}$  as a daily maximum.
- iv) Cyanide – Further Discussion and Rationale for Interim Effluent Limitation: Interim effluent limitation is given for cyanide since the Discharger has demonstrated and the Board verified that the final effluent limitations calculated according to the SIP (AMEL of 2.7  $\mu\text{g/L}$  and MDEL of 5.5  $\mu\text{g/L}$ ) will be infeasible to meet. The final WQBEL may be recalculated based on a cyanide SSO. Board staff considered effluent data from 2000 through 2002 to develop an IPBL. However, the data only contained three detected values out of 32 samples, and therefore, it was not possible to perform a meaningful statistical evaluation of current treatment performance. The previous Order includes a cyanide effluent limitation of 25  $\mu\text{g/L}$ , which is established as the interim daily maximum limitation.
- v) Bis(2-ethylhexyl)phthalate – Further Discussion and Rationale for Interim Effluent Limitation: Interim effluent limitation is given for bis(2-ethylhexyl)phthalate since the Discharger has demonstrated and the Board verified that the final effluent limitations (AMEL of 5.9  $\mu\text{g/L}$  and MDEL of 11.8  $\mu\text{g/L}$ ) calculated according to the SIP will be infeasible to meet. Board staff considered self-monitoring data from 2000 through 2002 to develop an IPBL. The data only contained two detected values among six samples; therefore, it was not possible to perform a meaningful statistical evaluation of current treatment performance. The previous permit does not contain an effluent limitation for bis(2-ethylhexyl)phthalate. The interim daily maximum limitation, therefore, is set at the MEC, which is 46  $\mu\text{g/L}$ .
- vi) Aldrin – Further Discussion and Rationale for Interim Effluent Limitations: Interim effluent limitation is given for aldrin since the Discharger has demonstrated and the Board verified



that it is infeasible<sup>1</sup> for the Discharger to achieve immediate compliance with the final effluent limitations (AMEL of 0.00014 µg/L and MDEL of 0.00028 µg/L) newly calculated according to the SIP. This is because detection limits are above the final effluent limits. The previous permit contains a final monthly average effluent limitation for aldrin of 0.0013 µg/L, which is well below currently approved analytical detection limits (no interim limit was given in the previous permit because the Board and EPA used the ML to determine that there was compliance with the final limit, which approach a court has since rejected). Since the Discharger cannot immediately comply with the final limit, the interim daily maximum limitation is set at current performance at 0.005 ug/l, which is the level where the Discharger can demonstrate compliance. This is not inconsistent with anti-backsliding requirements because:

- 1) The proposed final WQBEL set forth in the findings is more stringent than the WQBEL specified in the previous permit,
- 2) As set forth in the State Board Order WQ 2001-06, antibacksliding does not apply to the interim limitations in a compliance schedule and the proposed interim *performance-based* limit is not "comparable" to the prior *water quality*-based limit of the previous permit, and
- 3) Even if antibacksliding and antidegradation policies apply to interim limitations under CWA 402(o)(2)(c), a less stringent limitation is necessary because of factors over which the Discharger has no control--specifically, the limits of analytical technology.

vii) 4,4'-DDE and Dieldrin – Further Discussion and Rationale for Interim Effluent Limitations:

Interim effluent limitations are given for these pollutants because it is infeasible for the Discharger to achieve immediate compliance with the final WQBELs (AMEL of 0.00059 µg/L and MDEL of 0.00118 µg/L for 4,4'-DDE and AMEL of 0.00014 µg/L and MDEL of 0.00028 µg/L for dieldrin) newly calculated in accordance with the SIP. This is because all effluent samples are non-detect and the detection limits are far above the WQBELs. The previous permit does not include a limitation for 4,4'-DDE, but it does specify a monthly average effluent limitation for dieldrin of 0.0014 µg/L, which is well below the detection limit for dieldrin (no interim limit was given in the previous permit for dieldrin because the Board and EPA used the ML to determine that there was compliance with the final limit, which approach a court has since rejected). Since the Discharger cannot immediately comply with the final limits, the interim limitations are set at current performance, which are the levels at which the Discharger can demonstrate compliance. The interim limitations are as follows: 4,4'-DDE is 0.05 µg/L as daily maximum, and dieldrin is 0.01 µg/L as daily maximum. With respect to dieldrin, this is not inconsistent with anti-backsliding requirements because:

- 1) The proposed final WQBEL set forth in the findings is more stringent than the limitation specified in the previous permit,
- 2) As set forth in the State Board Order WQ 2001-06, antibacksliding does not apply to the interim limitations in a compliance schedule and the interim *performance-based* limit here for dieldrin is not "comparable" to the prior *water quality*-based limit of the previous permit, and
- 3) Even if antibacksliding and antidegradation policies apply to interim limitations under CWA 402(o)(2)(c), a less stringent limitation is necessary because of events over

<sup>1</sup> The SIP defines "infeasible" as follows: "... not capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social and *technological* factors." SIP, Appendix 1-3 (emphasis added).

which the Discharger has no control -- specifically, the limits of analytical technology.

viii) Dioxins and Furans – Further Discussion and Rationale for Interim Effluent Limitations: Interim effluent limitations are given for 2,3,7,8 TCDD TEQ since the Discharger has demonstrated and the Board verified that it is infeasible for the Discharger to achieve immediate compliance with the final WQBELs (AMEL of 0.014 pg/L and MDEL of 0.028 pg/L) newly calculated in accordance with the SIP. This is because detection limits are above the final effluent limits. The previous permit contains a final monthly average effluent limitation for 2,3,7,8 TCDD TEQ of 0.13 µg/L, which is well below currently approved analytical detection limits. The SIP does not contain minimum levels for the dioxin and furan compounds. Section 2.4.3 (1.) of the SIP requires the Board to establish a ML in the discharger's permit, when the pollutant under consideration is not included in Appendix 4 of the SIP. For this reason, this Order requires the Discharger to investigate the feasibility and reliability of increasing sample volumes to lower the detection limits for dioxin and furan compounds. No interim limit was given in the previous permit because the Board and EPA used the approved analytical detection limit to determine that there was compliance with the final limit, which approach a court has since rejected. Since, the Discharger cannot immediately comply with the final limit, the interim limitation is set at the previous permit effluent limitation for 2,3,7,8 TCDD TEQ.

#### **h. Attainability of Interim Limitations**

- i) Copper - Self-monitoring data from 2000 through 2003 indicate that effluent copper concentrations ranged from <5 µg/L to 12.1 µg/L. The MEC is less than the IPBL of 16 µg/L. Therefore, the IPBL should be consistently and immediately attainable.
- ii) Mercury – Self-monitoring data from 2000 through 2003 indicate that effluent mercury concentrations ranged from <0.0165 to the MEC of 0.029 µg/L. All of the 59 samples are less than the interim limitation of 0.084 µg/L. Therefore, the IPBL should be consistently and immediately attainable.
- iii) Nickel - Self-monitoring data from 2000 through 2003 indicate that effluent nickel concentrations ranged from 4 µg/L to 14 µg/L. All of the 32 samples are less than the interim limitation of 20 µg/L. Therefore, the IPBL should be consistently and immediately attainable.
- iv) Cyanide - Self-monitoring data from 2000 through 2002 indicate that effluent cyanide concentrations ranged from <3 µg/L to 6 µg/L. The MEC is less than the interim limitation of 25 µg/L, which is based on the previous permit daily average effluent limitation. Therefore, the interim limitation should be consistently and immediately attainable.
- v) Bis(2-Ethylhexyl)Phthalate - Self-monitoring data from 2000 through 2002 indicate that effluent bis(2-ethylhexyl)phthalate concentrations ranged from <5 µg/L to 46 µg/L. The interim effluent limitation is set at the MEC; therefore, the interim effluent limitation should be attainable.
- vi) Aldrin - Self-monitoring data from 2000 through 2002, aldrin was measured only once in the waste water treatment plants effluent at 0.017 µg/L, which exceeds the IPBL. However, in the Feasibility Study, the Discharger stated that since aldrin had not been previously

detected, the Discharger had not previously implemented a pollution prevention program, and therefore, proposed to implement additional pollution prevention measures to reduce aldrin concentration levels in the discharge. Therefore, the Board has determined it is feasible to comply with the interim limitation.

- vii) 4,4'-DDE and Dieldrin - Self-monitoring effluent data are available from 2000 through 2002. Effluent data consist of six samples for 4,4'-DDE and nine samples for dieldrin. Neither was detected in the effluent in any of the samples and the interim limits are attainable.
- viii) Dioxins and Furans – There were only two samples available from 2000 through 2001, and the effluent data consist of two detected dioxin and furan compounds out of the 17 congeners. The MEC for dioxins and furans is less than the interim limitation of 0.13 pg/L, when zeros are used for non-detected congeners, which is the procedure indirectly described in the SIP. Therefore, the interim limitation should be attainable.

#### **E. Basis for Receiving Water Limitations**

1. Receiving water limitations C.1 and C.2 (conditions to be avoided): These limitations are based on the narrative/numerical objectives contained in Chapter 3 of the Basin Plan, pages 3-2 – 3-5.
2. Receiving water limitation C.3 (compliance with State Law): This requirement is in the previous permit, requires compliance with Federal and State law, and are self-explanatory.

#### **F. Basis for Sludge Management Practices**

These requirements are based on Table 4.1 of the Basin Plan and 40 CFR 503.

#### **G. Basis for Self-Monitoring Requirements**

The SMP includes monitoring at the outfall for conventional, non-conventional, and toxic pollutants, and acute and chronic toxicity. The monitoring frequency for TSS has been increased to five times per week since the Board believes that daily performance monitoring is appropriate for major POTWs. Since TSS provides a better measure of daily performance, the settleable solids monitoring frequency is reduced to quarterly. This Order requires monthly monitoring for copper and cyanide to demonstrate compliance with the IPBL. This Order requires monthly monitoring for lead, nickel, and mercury to demonstrate compliance with final effluent limitations. Additionally, this Order requires quarterly monitoring for aldrin to demonstrate compliance with interim effluent limitation, and to monitor the efficiency of the Discharger's pollution prevention and source control measures implemented to reduce aldrin concentration levels in the effluent. Furthermore, this Order requires twice yearly monitoring for bis(2-ethylhexyl)phthalate, dieldrin, 4,4'-DDE, and dioxins and furan compounds to determine compliance with effluent limitations since these pollutants have sparse data with either limited or no detected values in the effluent during the period 2000 through 2002. Moreover, the Discharger shall collect twice yearly monitoring for all the 2,3,7,8-TCDD congeners, as further explained under the heading **Basis for the Lower Detection Limit Study for Dioxin TEQ**. In lieu of near field discharge specific ambient monitoring, it is generally acceptable that the Discharger participate in collaborative receiving water monitoring with other dischargers under the provisions of the Board's August 6, 2001 Letter and the RMP.

## H. Basis for Provisions

- i) Provisions E.1. (Permit Compliance and Rescission of Previous Permit): Time of compliance is based on 40 CFR 122. The basis of this Order superceding and rescinding the previous permit Order is 40 CFR 122.46.
- ii) Provision E.2 (Regional Cyanide Study and Schedule): This provision, based on BPJ, requires the Discharger to characterize background ambient cyanide concentrations and to participate in an on-going group effort to develop an SSO for cyanide.
- iii) Provision E.3 (Dioxin and Furan Lower Detection Limit Study): This provision, based on BPJ, requires the Discharger to determine the presence of dioxin and furan compounds in its effluent through use of four-liter samples. The Discharger may participate in an on-going group effort to validate four-liter samples to lower the detection limits.
- iv) Provision E.4 (Bis(2-ethylhexyl)phthalate Laboratory Analysis Study): This provision is required as the Discharger cannot currently comply with final WQBELs for bis(2-ethylhexyl)phthalate. Sip2.21 requires the establishment of interim requirements and dates for their achievement in the permit. The Discharger is requirement to conduct a study to determine whether the Discharger can meet final WQBELs for bis(2-ethylhexyl)phthalate.
- v) Provision E.5 (Pretreatment Program): The Discharger has implemented and is maintaining a USEPA approved pretreatment program in accordance with Federal pretreatment regulations (40 CFR 403) and the requirements specified in Attachment D "Pretreatment Requirements" and its revisions thereafter.
- vi) Provision E.6 (Advanced Mercury Source Reduction Project): This provision, requires the Discharger to implement an Advanced Mercury Source Control Program throughout its service area that will within the first three years of the program increase the collection of fluorescent light tubes 5%. This provision is based on Section 2.1.1 of the SIP.
- vii) Provision E.7 (Effluent Characterization Study): This provision is based on the Basin Plan and the SIP.
- viii) Provision E.8 (Ambient Background Receiving Water Study): This provision is based on the Basin Plan and the SIP.
- ix) Provision E.9 (Pollutant Prevention and Minimization Program): This provision is based on the Basin Plan, pages 4-25 – 4-28, and the SIP, Section 2.1.
- x) Provision E.10 (Whole Effluent Acute Toxicity): This provision establishes conditions by which compliance with permit effluent limitations for acute toxicity will be demonstrated. Under this Order, the Discharger is required to use the most up-to-date protocols in 40 CFR Part 136, currently in "Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms," 5<sup>th</sup> Edition.
- xi) Provision E.11. (Whole Effluent Chronic Toxicity): This provision establishes conditions and protocol by which compliance with the Basin Plan narrative WQO for toxicity will be demonstrated. Conditions include required monitoring and evaluation of the effluent for

chronic toxicity and numerical values for chronic toxicity evaluation to be used as 'triggers' for initiating accelerated monitoring and toxicity reduction evaluation(s). These conditions apply to the discharges to New York Slough and the numerical values for chronic toxicity evaluation are based on a minimum initial dilution credit of 10:1. This provision also requires the Discharger to conduct a screening phase monitoring requirement and implement toxicity identification and reduction evaluations when there is consistent chronic toxicity in the discharge. New testing species and/or test methodology may be available before the next permit renewal.

Characteristics, and thus toxicity, of the process wastewater may also have been changed during the life of the permit. This screening phase monitoring is important to help determine which test species is most sensitive to the toxicity of the effluent for future compliance monitoring. The proposed conditions in the draft permit for chronic toxicity are based on the Basin Plan narrative WQO for toxicity, Basin Plan effluent limitations for chronic toxicity (Basin Plan, Chapter 4), USEPA and SWRCB Task Force guidance, applicable federal regulations [40 CFR 122.44(d)(1)(v)], and BPJ.

- xii) Provision E.12 (Optional Mass Offset): This option is provided to encourage the Discharger to further implement aggressive reduction of mass loads to New York Slough and Suisun Bay.
- xiii) Provision E.13 (Copper and Nickel Translator Study and Schedule): This provision allows the Discharger to conduct an optional copper and nickel translator study, based on BPJ and the SIP. This provision is based on the need to gather site-specific information in order to apply a different translator from the default translator specified in the CTR and SIP. Without site-specific data, the default translator of 0.83 has been used with the CTR criterion to obtain a total copper objective of 3.7 µg/L.
- xiv) Provision E.14 (Wastewater Facilities, Review and Evaluation, Status Reports): This provision is based on the previous Order and the Basin Plan.
- xv) Provision E.15 (Operations and Maintenance Manual and Reliability Report), E.16 (Contingency Plan Update), and E.17 (Annual Status Reports): These provisions are based on the Basin Plan, the requirements of 40 CFR 122, and the previous permit.
- xvi) Provision E.18. (303(d)-listed Pollutants Site-Specific Objective and TMDL Status Review): Consistent with the SIP, the Discharger shall participate in the development of TMDLs and SSOs for mercury, selenium, 4,4'-DDE, dieldrin, dioxin, and PCBs. By January 31 of each year, the Discharger shall submit an update to the Board to document progress made on source control and pollutant minimization measures and development of TMDL or SSO. Regional Board staff shall review the status of TMDL development. This Order may be reopened in the future to reflect any changes required by TMDL development.
- xvii) Provision E.19 (New Water Quality Objectives): This provision allows future modification of the permit and permit effluent limitations as necessary in response to updated WQOs that may be established in the future. This provision is based on 40 CFR 123.
- xviii) Provision E.20 (Self-Monitoring Program): The Discharger is required to conduct monitoring of the permitted discharges in order to evaluate compliance with permit conditions. Monitoring requirements are contained in the Self Monitoring Program (SMP) of the Permit. This provision requires compliance with the SMP, and is based on 40 CFR 122.44(i), 122.62, 122.63 and 124.5. The SMP is a standard requirement in almost all NPDES permits issued by the Board, including this Order. It contains definitions of terms, specifies general sampling and analytical

protocols, and sets out requirements for reporting of spills, violations, and routine monitoring data in accordance with NPDES regulations, the California Water Code, and Board's policies. The SMP also contains a sampling program specific for the facility. It defines the sampling stations and frequency, the pollutants to be monitored, and additional reporting requirements. Pollutants to be monitored include all parameters for which effluent limitations are specified. Monitoring for additional constituents, for which no effluent limitations are established, is also required to provide data for future completion of RPAs for them.

- xix) Provision E.21 (Standard Provisions and Reporting Requirements): The purpose of this provision is require compliance with the standard provisions and reporting requirements given in this Board's document titled *Standard Provisions and Reporting Requirements for NPDES Surface Water Discharge Permits, August 1993* (the Standard Provisions), or any amendments thereafter. That document is incorporated in the permit as an attachment to it. Where provisions or reporting requirements specified in the permit are different from equivalent or related provisions or reporting requirements given in the Standard Provisions, the permit specifications shall apply. The standard provisions and reporting requirements given in the above document are based on various state and federal regulations with specific references cited therein.
- xx) Provisions E.22 and E.23 (Change in Control or Ownership): This provision is based on 40 CFR 122.61.
- xxi) Provision E.24 (Permit Reopener): This provision is based on 40 CFR 123.
- xxii) Provision E.25 (NPDES Permit /USEPA concurrence): This provision is based on 40 CFR 123.
- xxiii) Provisions E.26 and E.27 (Permit Expiration and Reapplication): This provision is based on 40 CFR 122.46(a).

## **VI. WASTE DISCHARGE REQUIREMENT APPEALS**

Any person may petition the State Water Resources Control Board to review the decision of the Board regarding the Waste Discharge Requirements. A petition must be made within 30 days of the Board public hearing.

## **VII. ATTACHMENTS**

**Attachment A:** RPA Results for Priority Pollutants

**Attachment B:** Calculation of Final WQBELs

**Attachment A.**

**RPA Results for Priority Pollutants**

Is it a RB2 facility (Y/N)?  
Hardness (mg/L CaCO3)  
pH (s.u.)

Note: Numbers in blue have formula in the cells - calculates values automatically

[illegible]



**Criteria Selection**  
**Delta Diablo Sanitation District**  
**September 23, 2003**

[illegible]

Criteria Selection  
Delta Diablo Sanitation District  
September 23, 2003

# in CTR	PRIORITY POLLUTANTS	Lowest (most stringent) Criteria *	Basin Plan Objectives (ug/L) - Regional Board 2								CTR Water Quality Criteria (ug/L)								Factors for Metals				Conversion Factor (CF)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
			Freshwater Table 3-4)				Saltwater Table 3-3)				Freshwater				Saltwater				Human Health for consumption of:				Freshwater Criteria																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
			4-day		1-hr		24-hr		Max		4-day		1-hr		24-hr		Max		CMC (acute)		CCC (chronic)		CMC (acute)		CCC (chronic)		Water & organisms		Organisms only		ma		ba		mc		bc		freshwater acute criteria		freshwater chronic criteria		saltwater acute criteria		saltwater chronic criteria																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
			ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L

Notes:

- (1) Receiving body. Adjusted Geometric Mean hardness = 68 mg/L as CaCO3
- (2) Reasonable Potential Analysis based on the lowest CTR criteria except for arsenic, cadmium, chromium, lead, mercury, nickel, and zinc where the lowest Basin Plan water quality objectives are more stringent, therefore apply.
- (3) PCBs sum refers to sum of PCB 1016, 1221, 1232, 1242, 1248, 1254, and 1260

Bold are 303(d) listed pollutants

Data Input for RPA  
Delta Diablo Sanitation District

Green highlight checks for input inconsistency (see "input check" spreadsheet for logic)  
Yellow highlights are user input

	Constituent name	Effluent Data Available (Y/N)?	Are all data points non-detects (Y/N)?	If all data points ND Enter the min detection limit (MDL) (ug/L)	Enter the pollutant effluent detected max conc (ug/L)	Input Check	B (ug/L) Enter the Maximum Background Conc	7) Review other information in the SIP page 4. If information is unavailable or insufficient: 8) the RWQCB shall establish interim monitoring requirements.
1	Antimony	Y	N		0.8			
2	Arsenic	Y	N		12		3.65	
3	Beryllium	N						No Criteria
4	Cadmium	Y	N		0.04		0.06	
5a	Chromium (III)	Y	N		2.1			
5b	Chromium (VI)	Y	N		2.6			
6	Copper (303d listed)	Y	N		12.1		9.9	
7	Lead	Y	N		0.39		2.35	
8	Mercury (303d listed)	Y	N		0.029		0.0377	
9	Nickel	Y	N		14		21.8	
10	Selenium (303d listed)	Y	N		4		0.3	
11	Silver	Y	N		0.8		0.0566	
12	Thallium	Y	Y	0.03				
13	Zinc	Y	N		22		18.2	
14	Cyanide	Y	N		6			
15	Asbestos	N						No Criteria
16	2,3,7,8 TCDD (303d listed)	Y	N		6.466E-08			
17	Acrolein	Y	Y	3				
18	Acrylonitrile	Y	Y	1				
19	Benzene	Y	Y	0.3				
20	Bromoform	Y	N		17			
21	Carbon Tetrachloride	Y	Y	0.3				
22	Chlorobenzene	Y	Y	0.3				
23	Chlorodibromomethane	Y	N		2.9			
24	Chloroethane	Y	Y	0.3				No Criteria
25	2-Chloroethylvinyl ether	Y	Y	1				No Criteria
26	Chloroform	Y	N		0.8			No Criteria
27	Dichlorobromomethane	Y	N		1.1			
28	1,1-Dichloroethane	Y	Y	0.3				No Criteria
29	1,2-Dichloroethane	Y	Y	0.3				
30	1,1-Dichloroethylene	Y	Y	0.3				
31	1,2-Dichloropropane	Y	Y	0.3				
32	1,3-Dichloropropylene	Y	Y	0.6				
33	Ethylbenzene	Y	Y	0.3				
34	Methyl Bromide	Y	N		1.7			
35	Methyl Chloride	Y	N		0.7			No Criteria
36	Methylene Chloride	Y	Y	2				
37	1,1,2,2-Tetrachloroethane	Y	Y	0.3				
38	Tetrachloroethylene	Y	Y	0.3				
39	Toluene	Y	N		0.7			
40	1,2-Trans-Dichloroethylene	Y	Y	0.3				
41	1,1,1-Trichloroethane	Y	Y	0.3				No Criteria
42	1,1,2-Trichloroethane	Y	Y	0.3				
43	Trichloroethylene	Y	Y	0.3				
44	Vinyl Chloride	Y	Y	0.3				
45	2-Chlorophenol	Y	Y	5				
46	2,4-Dichlorophenol	Y	Y	5				
47	2,4-Dimethylphenol	Y	Y	2				
48	2-Methyl-4,6-Dinitrophenol	Y	Y	5				
49	2,4-Dinitrophenol	Y	Y	5				
50	2-Nitrophenol	Y	Y	5				No Criteria
51	4-Nitrophenol	Y	Y	5				No Criteria
52	3-Methyl 4-Chlorophenol	Y	Y	1				No Criteria
53	Pentachlorophenol	Y	Y	1				
54	Phenol	Y	N		34			
55	2,4,6-Trichlorophenol	Y	Y	5				
56	Acenaphthene	Y	Y	5			0.005	
57	Acenaphthylene	Y	N		0.2		0.00012	No Criteria
58	Anthracene	Y	Y	0.3			0.0058	
59	Benzidine	Y	Y	5				
60	Benzo(a)Anthracene	Y	Y	0.3			0.0011	
61	Benzo(a)Pyrene	Y	Y	0.3			0.00032	
62	Benzo(b)Fluoranthene	Y	Y	0.3			0.0019	

Data Input for RPA  
Delta Diablo Sanitation District

63	Benzo(ghi)Perylene	Y	Y	0.1		0.00062	No Criteria
64	Benzo(k)Fluoranthene	Y	Y	0.3		0.00093	
65	Bis(2-Chloroethoxy)Methane	Y	Y	5			No Criteria
66	Bis(2-Chloroethyl)Ether	Y	Y	1			
67	Bis(2-Chloroisopropyl)Ether	Y	Y	2			
68	Bis(2-Ethylhexyl)Phthalate	Y	N		46		
69	4-Bromophenyl Phenyl Ether	Y	Y	5			No Criteria
70	Butylbenzyl Phthalate	Y	Y	5			
71	2-Chloronaphthalene	Y	Y	5			
72	4-Chlorophenyl Phenyl Ether	Y	Y	5			No Criteria
73	Chrysene	Y	Y	0.3		0.001	
74	Dibenzo(a,h)Anthracene	Y	Y	0.1		0.00067	
75	1,2-Dichlorobenzene	Y	Y	0.3			
76	1,3-Dichlorobenzene	Y	Y	0.3			
77	1,4-Dichlorobenzene	Y	N		0.7		
78	3,3-Dichlorobenzidine	Y	Y	5			
79	Diethyl Phthalate	Y	Y	2			
80	Dimethyl Phthalate	Y	Y	2			
81	Di-n-Butyl Phthalate	Y	Y	5			
82	2,4-Dinitrotoluene	Y	Y	5			
83	2,6-Dinitrotoluene	Y	Y	5			No Criteria
84	Di-n-Octyl Phthalate	Y	Y	5			No Criteria
85	1,2-Diphenylhydrazine	Y	Y	1			
86	Fluoranthene	Y	Y	5		0.003	
87	Fluorene	Y	Y	0.05		0.0021	
88	Hexachlorobenzene	Y	Y	1		0.000053	
89	Hexachlorobutadiene	Y	Y	1			
90	Hexachlorocyclopentadiene	Y	Y	5			
91	Hexachloroethane	Y	Y	1			
92	Indeno(1,2,3-cd)Pyrene	Y	Y	0.05		0.0013	
93	Isophorone	Y	Y	1			
94	Naphthalene	Y	Y	5		0.0028	No Criteria
95	Nitrobenzene	Y	Y	1			
96	N-Nitrosodimethylamine	Y	Y	5			
97	N-Nitrosodi-n-Propylamine	Y	Y	5			
98	N-Nitrosodiphenylamine	Y	Y	1			
99	Phenanthrene	Y	Y	0.05		0.0041	No Criteria
100	Pyrene	Y	Y	0.05		0.0025	
101	1,2,4-Trichlorobenzene	Y	Y	5			No Criteria
102	Aldrin	Y	N		0.017		
103	alpha-BHC	Y	Y	0.01		0.000347	
104	beta-BHC	Y	Y	0.005		0.000118	
105	gamma-BHC	Y	Y	0.01		0.0010032	
106	delta-BHC	Y	Y	0.005		0.000038	No Criteria
107	Chlordane (303d listed)	Y	Y	0.01		0.000302	
108	4,4'-DDT (303d listed)	Y	Y	0.01		0.000349	
109	4,4'-DDE (linked to DDT)	Y	Y	0.01		0.00092	
110	4,4'-DDD	Y	Y	0.01		0.000347	
111	Dieldrin (303d listed)	Y	Y	0.01		0.00038	
112	alpha-Endosulfan	Y	Y	0.01		0.000036	
113	beta-Endosulfan	Y	Y	0.01		0.000042	
114	Endosulfan Sulfate	Y	Y	0.01		0.0002	
115	Endrin	Y	Y	0.01		0.000019	
116	Endrin Aldehyde	Y	Y	0.01			
117	Heptachlor	Y	Y	0.01			
118	Heptachlor Epoxide	Y	Y	0.01		0.000097	
119-125	PCBs sum (2)	Y	Y	0.7			
126	Toxaphene	Y	Y	0.5			
	Tributyltin	Y	N		0.008		
	Total PAHs	Y	N		0.200	0.0333	

Green highlight checks for input inconsistency  
Yellow highlights are user input

Beginning	Step 2	Step 3	Step 4	Step 5	Step 6	Steps 7 & 8	Final Result	Reason	Condition
1 Antimony	Y	N	MEC-C, go to Step 5	No RMP Data	No ambient data, to Step 7	No Criteria	No	Ud; MEC-C & no B	6
2 Arsenic	Y	N	MEC-C, go to Step 5	3.65	B-C, Step 7	No Criteria	No	MEC-C & B-C	10
3 Barium	Y	N	MEC-C, go to Step 5	No RMP Data	No Criteria	No Criteria	Ud	No Criteria	1
4 Cadmium	Y	N	MEC-C, go to Step 5	0.06	B-C, Step 7	No Criteria	No	MEC-C & B-C	10
5a Chromium (III)	Y	N	MEC-C, go to Step 5	No RMP Data	No ambient data, to Step 7	No Criteria	No	Ud; MEC-C & no B	6
5b Chromium (VI)	Y	N	MEC-C, go to Step 5	No RMP Data	No ambient data, to Step 7	No Criteria	No	Ud; MEC-C & no B	6
6 Copper (303d listed)	Y	N	MEC-C, go to Step 5	9.9	B-C, Effluent Limit Required	No Criteria	Yes	MEC-C & B-C	9
7 Lead	Y	N	MEC-C, go to Step 5	2.35	B-C, Effluent Limit Required	No Criteria	Yes	B-C	11
8 Mercury (303d listed)	Y	N	MEC-C, go to Step 5	0.0377	B-C, Effluent Limit Required	No Criteria	Yes	MEC-C & B-C	9
9 Nickel	Y	N	MEC-C, go to Step 5	21.8	B-C, Effluent Limit Required	No Criteria	Yes	MEC-C & B-C	9
10 Selenium (303d listed)	Y	N	MEC-C, go to Step 5	0.3	B-C, Step 7	No Criteria	No	MEC-C & B-C	10
11 Silver	Y	N	MEC-C, go to Step 5	0.0596	B-C, Step 7	No Criteria	No	MEC-C & B-C	10
12 Thallium	Y	N	MEC-C, go to Step 5	No RMP Data	No ambient data, to Step 7	No Criteria	No	Ud; MEC-C & no B	6
13 Zinc	Y	N	MEC-C, go to Step 5	18.2	B-C, Step 7	No Criteria	No	MEC-C & B-C	10
14 Cyanide	Y	N	MEC-C, go to Step 5	No RMP Data	No Criteria	No Criteria	Yes	MEC-C	5
15 Asbestos	Y	N	MEC-C, go to Step 5	No RMP Data	No ambient data, to Step 7	No Criteria	Yes	No Criteria	1
16 2,3,7,8-TCDF (303d listed)	Y	N	MEC-C, go to Step 5	No RMP Data	No ambient data, to Step 7	No Criteria	Yes	MEC-C	5
17 Acrolein	Y	N	MEC-C, go to Step 5	No RMP Data	No ambient data, to Step 7	No Criteria	Yes	Ud; MEC-C & no B	6
18 Acrylonitrile	Y	N	MEC-C, go to Step 5	No RMP Data	No ambient data, to Step 7	No Criteria	No	Ud; MEC-C & no B	6
19 Benzene	Y	N	MEC-C, go to Step 5	No RMP Data	No ambient data, to Step 7	No Criteria	No	Ud; MEC-C & no B	6
20 Bromoform	Y	N	MEC-C, go to Step 5	No RMP Data	No ambient data, to Step 7	No Criteria	No	Ud; MEC-C & no B	6
21 Carbon tetrachloride	Y	N	MEC-C, go to Step 5	No RMP Data	No ambient data, to Step 7	No Criteria	No	Ud; MEC-C & no B	6
22 Chlorobenzene	Y	N	MEC-C, go to Step 5	No RMP Data	No ambient data, to Step 7	No Criteria	No	Ud; MEC-C & no B	6
23 Chlorodibromomethane	Y	N	MEC-C, go to Step 5	No RMP Data	No ambient data, to Step 7	No Criteria	No	Ud; MEC-C & no B	6
24 Chloroethane	Y	N	MEC-C, go to Step 5	No RMP Data	No ambient data, to Step 7	No Criteria	No	Ud; MEC-C & no B	6
25 2-Chloroethyl vinyl ether	Y	N	MEC-C, go to Step 5	No RMP Data	No ambient data, to Step 7	No Criteria	No	Ud; MEC-C & no B	6
26 Chloroform	Y	N	MEC-C, go to Step 5	No RMP Data	No ambient data, to Step 7	No Criteria	No	Ud; MEC-C & no B	6
27 Dichlorobromomethane	Y	N	MEC-C, go to Step 5	No RMP Data	No ambient data, to Step 7	No Criteria	No	Ud; MEC-C & no B	6
28 1,1-Dichloroethane	Y	N	MEC-C, go to Step 5	No RMP Data	No ambient data, to Step 7	No Criteria	No	Ud; MEC-C & no B	6
29 1,2-Dichloroethane	Y	N	MEC-C, go to Step 5	No RMP Data	No ambient data, to Step 7	No Criteria	No	Ud; MEC-C & no B	6
30 1,1,1-Trichloroethane	Y	N	MEC-C, go to Step 5	No RMP Data	No ambient data, to Step 7	No Criteria	No	Ud; MEC-C & no B	6
31 1,2-Dichloropropane	Y	N	MEC-C, go to Step 5	No RMP Data	No ambient data, to Step 7	No Criteria	No	Ud; MEC-C & no B	6
32 1,3-Dichloropropane	Y	N	MEC-C, go to Step 5	No RMP Data	No ambient data, to Step 7	No Criteria	No	Ud; MEC-C & no B	6
33 Ethylbenzene	Y	N	MEC-C, go to Step 5	No RMP Data	No ambient data, to Step 7	No Criteria	No	Ud; MEC-C & no B	6
34 Methyl Bromide	Y	N	MEC-C, go to Step 5	No RMP Data	No ambient data, to Step 7	No Criteria	No	Ud; MEC-C & no B	6
35 Methyl Chloride	Y	N	MEC-C, go to Step 5	No RMP Data	No ambient data, to Step 7	No Criteria	No	Ud; MEC-C & no B	6
36 Methylene Chloride	Y	N	MEC-C, go to Step 5	No RMP Data	No ambient data, to Step 7	No Criteria	No	Ud; MEC-C & no B	6
37 1,1,2,2-Tetrachloroethane	Y	N	MEC-C, go to Step 5	No RMP Data	No ambient data, to Step 7	No Criteria	No	Ud; MEC-C & no B	6
38 Tetrachloroethylene	Y	N	MEC-C, go to Step 5	No RMP Data	No ambient data, to Step 7	No Criteria	No	Ud; MEC-C & no B	6
39 Toluene	Y	N	MEC-C, go to Step 5	No RMP Data	No ambient data, to Step 7	No Criteria	No	Ud; MEC-C & no B	6
40 1,2-Trans-Dichloroethylene	Y	N	MEC-C, go to Step 5	No RMP Data	No ambient data, to Step 7	No Criteria	No	Ud; MEC-C & no B	6
41 1,1,1-Trichloroethane	Y	N	MEC-C, go to Step 5	No RMP Data	No ambient data, to Step 7	No Criteria	No	Ud; MEC-C & no B	6
42 1,1,2-Trichloroethane	Y	N	MEC-C, go to Step 5	No RMP Data	No ambient data, to Step 7	No Criteria	No	Ud; MEC-C & no B	6
43 Trichloroethylene	Y	N	MEC-C, go to Step 5	No RMP Data	No ambient data, to Step 7	No Criteria	No	Ud; MEC-C & no B	6
44 Vinyl Chloride	Y	N	MEC-C, go to Step 5	No RMP Data	No ambient data, to Step 7	No Criteria	No	Ud; MEC-C & no B	6
45 2-Chlorophenol	Y	N	MEC-C, go to Step 5	No RMP Data	No ambient data, to Step 7	No Criteria	No	Ud; MEC-C & no B	6
46 2,4-Dichlorophenol	Y	N	MEC-C, go to Step 5	No RMP Data	No ambient data, to Step 7	No Criteria	No	Ud; MEC-C & no B	6
47 2,4-Dimethylphenol	Y	N	MEC-C, go to Step 5	No RMP Data	No ambient data, to Step 7	No Criteria	No	Ud; MEC-C & no B	6
48 2-Methyl-4-6-Dinitrophenol	Y	N	MEC-C, go to Step 5	No RMP Data	No ambient data, to Step 7	No Criteria	No	Ud; MEC-C & no B	6
49 2,4-Dinitrophenol	Y	N	MEC-C, go to Step 5	No RMP Data	No ambient data, to Step 7	No Criteria	No	Ud; MEC-C & no B	6
50 4-Nitrophenol	Y	N	MEC-C, go to Step 5	No RMP Data	No ambient data, to Step 7	No Criteria	No	Ud; MEC-C & no B	6
51 4-Nitrophenol	Y	N	MEC-C, go to Step 5	No RMP Data	No ambient data, to Step 7	No Criteria	No	Ud; MEC-C & no B	6
52 3-Methyl-4-Chlorophenol	Y	N	MEC-C, go to Step 5	No RMP Data	No ambient data, to Step 7	No Criteria	No	Ud; MEC-C & no B	6
53 Pentachlorophenol	Y	N	MEC-C, go to Step 5	No RMP Data	No ambient data, to Step 7	No Criteria	No	Ud; MEC-C & no B	6
54 Phenol	Y	N	MEC-C, go to Step 5	No RMP Data	No ambient data, to Step 7	No Criteria	No	Ud; MEC-C & no B	6
55 2,4,6-Trichlorophenol	Y	N	MEC-C, go to Step 5	No RMP Data	No ambient data, to Step 7	No Criteria	No	Ud; MEC-C & no B	6
56 Acenaphthene	Y	N	MEC-C, go to Step 5	No RMP Data	No ambient data, to Step 7	No Criteria	No	Ud; MEC-C & no B	6
57 Acenaphthylene	Y	N	MEC-C, go to Step 5	0.00012	B-C, Step 7	No Criteria	No	MEC-C & B-C	10
58 Anthracene	Y	N	MEC-C, go to Step 5	0.0058	B-C, Step 7	No Criteria	No	MEC-C & B-C	10
59 Benzene	Y	N	MEC-C, go to Step 5	No RMP Data	No ambient data, to Step 7	No Criteria	No	Ud; MEC-C & no B	6
60 Benzofuran	Y	N	MEC-C, go to Step 5	0.0011	B-C, Step 7	No Criteria	No	Ud; all ND, MDL-C & B-C	12
61 Benzofuran	Y	N	MEC-C, go to Step 5	0.0032	B-C, Step 7	No Criteria	No	Ud; all ND, MDL-C & B-C	12
62 Benzofuran	Y	N	MEC-C, go to Step 5	0.0019	B-C, Step 7	No Criteria	No	Ud; all ND, MDL-C & B-C	12
63 Benzofuran	Y	N	MEC-C, go to Step 5	0.0062	No Criteria	No Criteria	No	Ud; all ND, MDL-C & B-C	12

UD: Cannot determine reasonable potential due to the absence of data, or because Minimum DL is greater than water quality objective or CTR criteria  
 LD: Interim monitoring is required

**INT:** interim monitoring is required

**INT:** interim monitoring is required

**Attachment B.**

**Calculation of Final WQBELs**

Effluent Limitation Calculations  
Delta Diablo Sanitation District

PRIORITY POLLUTANTS	Copper	Lead	Mercury	Nickel	CN	Bis(2-Ethylhexyl)Pthalate	Aldrin	4,4-DDE	Dieldrin	Dioxin
Basis and Criteria type	CTR - SW	BP FW (4-d, 1-hr avg)	BP SW (4-d, 1-hr avg)	BP SW (24-hr, inst. Max)	CTR - SW	HH	HH	HH	HH	HH
Lowest WQO	3.73	1.95	0.025	7.1	1	5.90	0.00014	0.00059	0.00014	0.000000014
Translators										
Dilution Factor (D) (if applicable)	9	9	9	9	9	9	9	9	9	9
no. of samples per month	4	4	4	4	4	4	4	4	4	4
Aquatic life criteria analysis required? (Y/N)	Y	Y	Y	Y	Y	N	N	N	N	N
HH criteria analysis required? (Y/N)	N	N	Y	Y	Y	Y	Y	Y	Y	Y
Applicable Acute WQO	5.8	50	2.1	140	1		0.00014	0.00059	0.00014	
Applicable Chronic WQO	3.73	1.95	0.025	7.1	1					
HH criteria			0.051	4.600	220,000	5.90000	0.00014	0.00059	0.00014	0.000000014
Background (max conc for Aquatic Life calc)	9.9	2.35	0.0377	21.8	0.5					
Background (avg conc for HH calc)										
Is the pollutant Bioaccumulative? (Y/N)? (e.g., Hg)	N	N	Y	Y	N	N	Y	Y	Y	Y
ECA acute	5.8	478.85	2.1	1203.8	5.5					
ECA chronic	3.73	1.95	0.025	7.1	5.5					
ECA HH			0.051	4.600	220,000	5.9	0.00014	0.00059	0.00014	0.000000014
No. of data points <10 or atleast 80% of data reported non detect? (Y/N)	N	Y	N	N	Y	Y	Y	Y	Y	Y
avg of data points	7.539		0.0140	6.63						
SD	1.74		0.0115	3.22						
CV calculated	0.23	N/A	0.82	0.49	N/A	N/A	N/A	N/A	N/A	N/A
CV (Selected) - Final	0.23	0.60	0.82	0.49	0.60	0.60	0.60	0.60	0.60	0.60
ECA acute mult99	0.60	0.32	0.24	0.38	0.32					
ECA chronic mult99	0.77	0.53	0.43	0.59	0.53					
LTA acute	3.51	153.75	0.51	459.06	1.77					
LTA chronic	2.87	1.03	0.01	4.19	2.90					
minimum of LTAs	2.87	1.03	0.011	4.19	1.77					
AMEL mult95	1.20	1.55	1.77	1.44	1.55	1.55	1.55	1.55	1.55	1.55
AMEL mult99	1.65	3.11	4.10	2.82	3.11	3.11	3.11	3.11	3.11	3.11
AMEL (aq life)	3.45	1.60	0.02	6.03	2.74					
AMEL (aq life)	4.75	3.20	0.04	10.98	5.50					
AMEL (aq life)										
AMEL/AMEL Multiplier	1.38	2.01	2.32	1.82	2.01	2.01	2.01	2.01	2.01	2.01
AMEL (human hth)			0.051	4.600	220,000	5.9	0.00014	0.00059	0.00014	0.000000014
AMEL (human hth)			0.116	837.5	441362	11.83852	0.00028	0.00118	0.00028	0.000000028
minimum of AMEL for Aq. life vs HH	3.45	1.60	0.02	6.03	2.74	5.9	0.00014	0.00059	0.00014	0.000000014
minimum of AMEL for Aq. Life vs HH	4.75	3.20	0.044	10.98	5.50	11.8386	0.00028	0.0012	0.00028	0.000000028
Current limit in permit (30-d avg)	N/A	N/A	0.084	N/A	N/A	N/A	0.0013	N/A	0.0014	0.000000013
Current limits in permit (daily)	78	23	24	71	25	N/A	N/A	N/A	0.019	N/A
Final limit - AMEL	3.45	1.60	0.019	6.0	2.74	5.90	0.00014	0.00059	0.00014	0.000000014
Final limit - AMEL	4.75	3.20	0.044	11.0	5.50	11.84	0.00028	0.00118	0.00028	0.000000028
Max Eff Conc (MEC), 1999-2003	12.1	0.39	0.029	14.0	6	46.00	0.017	<0.01	<0.01	0.00000006466



**Attachment F.**  
**Pretreatment Requirements**

### **Pretreatment Program Provisions**

1. The Discharger shall implement all pretreatment requirements contained in 40 CFR 403, as amended. The Discharger shall be subject to enforcement actions, penalties, and fines as provided in the Clean Water Act (33 USC 1351 *et seq.*), as amended. The Discharger shall implement and enforce its Approved Pretreatment Program or modified Pretreatment Program as directed by the Board's Executive Officer or the EPA. The EPA and/or the State may initiate enforcement action against an industrial user for noncompliance with applicable standards and requirements as provided in the Clean Water Act.
2. The Discharger shall enforce the requirements promulgated under Sections 307(b), 307(c), 307(d) and 402(b) of the Clean Water Act. The Discharger shall cause industrial users subject to Federal Categorical Standards to achieve compliance no later than the date specified in those requirements or, in the case of a new industrial user, upon commencement of the discharge.
3. The Discharger shall perform the pretreatment functions as required in 40 CFR Part 403 and amendments or modifications thereto including, but not limited to:
  - i) Implement the necessary legal authorities to fully implement the pretreatment regulations as provided in 40 CFR 403.8(f)(1);
  - ii) Implement the programmatic functions as provided in 40 CFR 403.8(f)(2);
  - iii) Publish an annual list of industrial users in significant noncompliance as provided per 40 CFR 403.8(f)(2)(vii);
  - iv) Provide for the requisite funding and personnel to implement the pretreatment program as provided in 40 CFR 403.8(f)(3); and
  - v) Enforce the national pretreatment standards for prohibited discharges and categorical standards as provided in 40 CFR 403.5 and 403.6, respectively.
4. The Discharger shall submit annually a report to the EPA Region 9, the State Board and the Regional Board describing its pretreatment program activities over the previous twelve months. In the event that the Discharger is not in compliance with any conditions or requirements of the Pretreatment Program, the Discharger shall also include the reasons for noncompliance and a plan and schedule for achieving compliance. The report shall contain, but is not limited to, the information specified in Appendix A entitled, "Requirements for Pretreatment Annual Reports," which is made a part of this Order. The annual report is due on the last day of February each year.
5. The Discharger shall submit semiannual pretreatment reports to the EPA Region 9, the State Board and the Board describing the status of its significant industrial users (SIUs). The report shall contain, but is not limited to, the information specified in Appendix B entitled, "Requirements for Semiannual Pretreatment Reports," which is made part of this Order. The semiannual reports are due July 31<sup>st</sup> (for the period January through June) and January 31<sup>st</sup> (for the period July through December) of each year. The Executive Officer may exempt a Discharger from the semiannual reporting requirements on a case by case basis subject to State Board and EPA's comment and approval.

6. The Discharger may combine the annual pretreatment report with the semiannual pretreatment report (for the July through December reporting period). The combined report shall contain all of the information requested in Appendices A and B and will be due on January 31<sup>st</sup> of each year.
7. The Discharger shall conduct the monitoring of its treatment plant's influent, effluent, and sludge as described in Appendix C entitled, "Requirements for Influent, Effluent and Sludge Monitoring," which is made part of this Order. The results of the sampling and analysis, along with a discussion of any trends, shall be submitted in the semiannual reports. A tabulation of the data shall be included in the annual pretreatment report. The Executive Officer may require more or less frequent monitoring on a case by case basis.

## **APPENDIX A**

### **REQUIREMENTS FOR PRETREATMENT ANNUAL REPORTS**

The Pretreatment Annual Report is due each year on the last day of February. [If the annual report is combined with the semiannual report (for the July through December period) the submittal deadline is January 31<sup>st</sup> of each year.] The purpose of the Annual Report is 1) to describe the status of the Publicly Owned Treatment Works (POTW) pretreatment program and 2) to report on the effectiveness of the program, as determined by comparing the results of the preceding year's program implementation. The report shall contain at a minimum, but is not limited to, the following information:

#### **1) Cover Sheet**

The cover sheet must contain the name(s) and National Pollutant Discharge Elimination Discharge System (NPDES) permit number(s) of those POTWs that are part of the Pretreatment Program. Additionally, the cover sheet must include: the name, address and telephone number of a pretreatment contact person; the period covered in the report; a statement of truthfulness; and the dated signature of a principal executive officer, ranking elected official, or other duly authorized employee who is responsible for overall operation of the POTW (40 CFR 403.12(j)).

#### **2) Introduction**

The Introduction shall include any pertinent background information related to the Discharger, the POTW and/or the industrial user base of the area. Also, this section shall include an update on the status of any Pretreatment Compliance Inspection (PCI) tasks, Pretreatment Performance Evaluation tasks, Pretreatment Compliance Audit (PCA) tasks, Cleanup and Abatement Order (CAO) tasks, or other pretreatment-related enforcement actions required by the Regional Board or the EPA. A more specific discussion shall be included in the section entitled, "Program Changes."

#### **3) Definitions**

This section shall contain a list of key terms and their definitions that the Discharger uses to describe or characterize elements of its pretreatment program.

#### **4) Discussion of Upset, Interference and Pass Through**

This section shall include a discussion of Upset, Interference or Pass Through incidents, if any, at the POTW(s) that the Discharger knows of or suspects were caused by industrial discharges. Each incident shall be described, at a minimum, consisting of the following information:

- a) a description of what occurred;
- b) a description of what was done to identify the source;
- c) the name and address of the IU responsible
- d) the reason(s) why the incident occurred;
- e) a description of the corrective actions taken; and
- f) an examination of the local and federal discharge limits and requirements for the purposes of determining whether any additional limits or changes to existing

requirements may be necessary to prevent other Upset, Interference or Pass Through incidents.

**5) Influent, Effluent and Sludge Monitoring Results**

This section shall provide a summary of the analytical results from the "Influent, Effluent and Sludge Monitoring" as specified in Appendix C. The results should be reported in a summary matrix that lists monthly influent and effluent metal results for the reporting year.

A graphical representation of the influent and effluent metal monitoring data for the past five years shall also be provided with a discussion of any trends.

**6) Inspection and Sampling Program**

This section shall contain at a minimum, but is not limited to, the following information:

- a) Inspections: the number of inspections performed for each type of IU; the criteria for determining the frequency of inspections; the inspection format procedures;
- b) Sampling Events: the number of sampling events performed for each type of IU; the criteria for determining the frequency of sampling; the chain of custody procedures.

**7) Enforcement Procedures**

This section shall provide information as to when the approved Enforcement Response Plan (ERP) had been formally adopted or last revised. In addition, the date the finalized ERP was submitted to the Regional Board shall also be given.

**8) Federal Categories**

This section shall contain a list of all of the federal categories that apply to the Discharger. The specific category shall be listed including the subpart and 40 CFR section that applies. The maximum and average limits for the each category shall be provided. This list shall indicate the number of Categorical Industrial Users (CIUs) per category and the CIUs that are being regulated pursuant to the category. The information and data used to determine the limits for those CIUs for which a combined waste stream formula is applied shall also be provided.

**9) Local Standards**

This section shall include a table presenting the local limits.

**10) Updated List of Regulated SIUs**

This section shall contain a complete and updated list of the Discharger's Significant Industrial Users (SIUs), including their names, addresses, and a brief description of the individual SIU's type of business. The list shall include all deletions and additions keyed to the list as submitted in the previous annual report. All deletions shall be briefly explained.

**11) Compliance Activities**

- a) **Inspection and Sampling Summary:** This section shall contain a summary of all the inspections and sampling activities conducted by the Discharger over the past year to gather information and data regarding the SIUs. The summary shall include:
- (1) the number of inspections and sampling events conducted for each SIU;
  - (2) the quarters in which these activities were conducted; and
  - (3) the compliance status of each SIU, delineated by quarter, and characterized using all applicable descriptions as given below:
    - (a) in consistent compliance;
    - (b) in inconsistent compliance;
    - (c) in significant noncompliance;
    - (d) on a compliance schedule to achieve compliance, (include the date final compliance is required);
    - (e) not in compliance and not on a compliance schedule;
    - (f) compliance status unknown, and why not.
- b) **Enforcement Summary:** This section shall contain a summary of the compliance and enforcement activities during the past year. The summary shall include the names of all the SIUs affected by the following actions:
- (1) Warning letters or notices of violations regarding SIUs' apparent noncompliance with or violation of any federal pretreatment categorical standards and/or requirements, or local limits and/or requirements. For each notice, indicate whether it was for an infraction of a federal or local standard/limit or requirement.
  - (2) Administrative Orders regarding the SIUs' apparent noncompliance with or violation of any federal pretreatment categorical standards and/or requirements, or local limits and/or requirements. For each notice, indicate whether it was for an infraction of a federal or local standard/limit or requirement.
  - (3) Civil actions regarding the SIUs' apparent noncompliance with or violation of any federal pretreatment categorical standards and/or requirements, or local limits and/or requirements. For each notice, indicate whether it was for an infraction of a federal or local standard/limit or requirement.
  - (4) Criminal actions regarding the SIUs' apparent noncompliance with or violation of any federal pretreatment categorical standards and/or requirements, or local limits and/or requirements. For each notice, indicate whether it was for an infraction of a federal or local standard/limit or requirement.

- (5) Assessment of monetary penalties. Identify the amount of penalty in each case and reason for assessing the penalty.
- (6) Order to restrict/suspend discharge to the POTW.
- (7) Order to disconnect the discharge from entering the POTW.

**12) Baseline Monitoring Report Update**

This section shall provide a list of CIUs that have been added to the pretreatment program since the last annual report. This list of new CIUs shall summarize the status of the respective Baseline Monitoring Reports (BMR). The BMR must contain all of the information specified in 40 CFR 403.12(b). For each of the new CIUs, the summary shall indicate when the BMR was due; when the CIU was notified by the POTW of this requirement; when the CIU submitted the report; and/or when the report is due.

**13) Pretreatment Program Changes**

This section shall contain a description of any significant changes in the Pretreatment Program during the past year including, but not limited to: legal authority, local limits, monitoring/inspection program and frequency, enforcement protocol, program's administrative structure, staffing level, resource requirements and funding mechanism. If the manager of the pretreatment program changes, a revised organizational chart shall be included. If any element(s) of the program is in the process of being modified, this intention shall also be indicated.

**14) Pretreatment Program Budget**

This section shall present the budget spent on the Pretreatment Program. The budget, either by the calendar or fiscal year, shall show the amounts spent on personnel, equipment, chemical analyses and any other appropriate categories. A brief discussion of the source(s) of funding shall be provided.

**15) Public Participation Summary**

This section shall include a copy of the public notice as required in 40 CFR 403.8(f)(2)(vii). If a notice was not published, the reason shall be stated.

**16) Sludge Storage and Disposal Practice**

This section shall have a description of how the treated sludge is stored and ultimately disposed. The sludge storage area, if one is used, shall be described in detail. Its location, a description of the containment features and the sludge handling procedures shall be included.

**17) PCS Data Entry Form**

The annual report shall include the PCS Data Entry Form. This form shall summarize the enforcement actions taken against SIUs in the past year. This form shall include the following information: the POTW name, NPDES Permit number, period covered by the report, the number of SIUs in significant noncompliance (SNC) that are on a pretreatment compliance

schedule, the number of notices of violation and administrative orders issued against SIUs, the number of civil and criminal judicial actions against SIUs, the number of SIUs that have been published as a result of being in SNC, and the number of SIUs from which penalties have been collected.

**18) Other Subjects**

Other information related to the Pretreatment Program that does not fit into one of the above categories should be included in this section.

Signed copies of the reports shall be submitted to the Regional Administrator at USEPA, the State Water Resources Control Board and the Regional Board at the following addresses:

Regional Administrator  
United States Environmental Protection Agency  
Region 9, Mail Code: WTR-7  
Clean Water Act Compliance Office  
Water Division  
75 Hawthorne Street  
San Francisco, CA 94105

Pretreatment Program Manager  
Regulatory Unit  
State Water Resources Control Board  
Division of Water Quality  
1001 I Street  
Sacramento, CA 95814

Pretreatment Coordinator  
NPDES Permits Division  
SF Bay Regional Water Quality Control Board  
1515 Clay Street, Suite 1400  
Oakland, CA 94612



## **APPENDIX B:**

### **REQUIREMENTS FOR SEMIANNUAL PRETREATMENT REPORTS**

The semiannual pretreatment reports are due on July 31<sup>st</sup> (for pretreatment program activities conducted from January through June) and January 31<sup>st</sup> (for pretreatment activities conducted from July through December) of each year, unless an exception has been granted by the Board's Executive Officer. The semiannual reports shall contain, at a minimum, but is not limited to, the following information:

#### **1) Influent, Effluent and Sludge Monitoring**

The influent, effluent and sludge monitoring results shall be included in the report. The analytical laboratory report shall also be included, with the QA/QC data validation provided upon request. A description of the sampling procedures and a discussion of the results shall be given. (Please see Appendix C for specific detailed requirements.) The contributing source(s) of the parameters that exceed NPDES limits shall be investigated and discussed. In addition, a brief discussion of the contributing source(s) of all organic compounds identified shall be provided.

The Discharger has the option to submit all monitoring results via an electronic reporting format approved by the Executive Officer. The procedures for submitting the data will be similar to the electronic submittal of the NPDES self-monitoring reports as outlined in the December 17, 1999 Regional Board letter, Official Implementation of Electronic Reporting System (ERS). The Discharger shall contact the Regional Board's ERS Project Manager for specific details in submitting the monitoring data.

If the monitoring results are submitted electronically, the analytical laboratory reports (along with the QA/QC data validation) should be kept at the discharger's facility.

#### **2) Industrial User Compliance Status**

This section shall contain a list of all Significant Industrial Users (SIUs) that were not in consistent compliance with all pretreatment standards/limits or requirements for the reporting period. The compliance status for the previous reporting period shall also be included. Once the SIU has determined to be out of compliance, the SIU shall be included in the report until consistent compliance has been achieved. A brief description detailing the actions that the SIU undertook to come back into compliance shall be provided.

For each SIU on the list, the following information shall be provided:

- a. Indicate if the SIU is subject to Federal categorical standards; if so, specify the category including the subpart that applies.
- b. For SIUs subject to Federal Categorical Standards, indicate if the violation is of a categorical or local standard.
- c. Indicate the compliance status of the SIU for the two quarters of the reporting period.

- d. For violations/noncompliance occurring in the reporting period, provide (1) the date(s) of violation(s); (2) the parameters and corresponding concentrations exceeding the limits and the discharge limits for these parameters and (3) a brief summary of the noncompliant event(s) and the steps that are being taken to achieve compliance.

### 3) **POTW's Compliance with Pretreatment Program Requirements**

This section shall contain a discussion of the Discharger's compliance status with the Pretreatment Program Requirements as indicated in the latest Pretreatment Compliance Audit (PCA) Report, Pretreatment Compliance Inspection (PCI) Report or Pretreatment Performance Evaluation (PPE) Report. It shall contain a summary of the following information:

- a. Date of latest PCA, PCI or PPE and report.
- b. Date of the Discharger's response.
- c. List of unresolved issues.
- d. Plan and schedule for resolving the remaining issues.

The reports shall be signed by a principal executive officer, ranking elected official, or other duly authorized employee who is responsible for the overall operation of the Publicly Owned Treatment Works (POTW) (40 CFR 403.12(j)). Signed copies of the reports shall be submitted to the Regional Administrator at USEPA, the State Water Resources Control Board and the Regional Board at the following addresses:

Regional Administrator  
United States Environmental Protection Agency  
Region 9, Mail Code: WTR-7  
Clean Water Act Compliance Office  
Water Division  
75 Hawthorne Street  
San Francisco, CA 94105

Pretreatment Program Manager  
Regulatory Unit  
State Water Resources Control Board  
Division of Water Quality  
1001 I Street  
Sacramento, CA 95814

Pretreatment Coordinator  
NPDES Permits Division  
SF Bay Regional Water Quality Control Board  
1515 Clay Street, Suite 1400  
Oakland, CA 94612

## **APPENDIX C**

### **REQUIREMENTS FOR INFLUENT, EFFLUENT AND SLUDGE MONITORING**

The Discharger shall conduct sampling of its treatment plant's influent, effluent and sludge at the frequency as shown in Table 3 on Page 8 of the Self-Monitoring Program (SMP).

The monitoring and reporting requirements of the POTW's Pretreatment Program are in addition to those specified in Table 1 of the SMP. Any subsequent modifications of the requirements specified in Table 1 shall be adhered to and shall not affect the requirements described in this Appendix unless written notice from the Regional Board is received. When sampling periods coincide, one set of test results, reported separately, may be used for those parameters that are required to be monitored by both Table 1 and the Pretreatment Program. The Pretreatment Program monitoring reports shall be sent to the Pretreatment Program Coordinator.

#### **1. Influent and Effluent Monitoring**

The Discharger shall monitor for the parameters using the required test methods listed in Table 3 (page 7 of the SMP). Any test method substitutions must have received prior written Regional Board approval. Influent and Effluent sampling locations shall be the same as those sites specified in the Self-Monitoring Program.

The influent and effluent sampled should be taken during the same 24-hour period. All samples must be representative of daily operations. A grab sample shall be used for volatile organic compounds, cyanide and phenol. In addition, any samples for oil and grease, polychlorinated biphenyls, dioxins/furans, and polynuclear aromatic hydrocarbons shall be grab samples. For all other pollutants, 24-hour composite samples must be obtained through flow-proportioned composite sampling. Sampling and analysis shall be performed in accordance with the techniques prescribed in 40 CFR Part 136 and amendments thereto. For effluent monitoring, the reporting limits for the individual parameters shall be at or below the minimum levels (MLs) as stated in the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (2000) [also known as the State Implementation Policy (SIP)]; any revisions to the MLs shall be adhered to. If a parameter does not have a stated minimum level, then the Discharger shall conduct the analysis using the lowest commercially available and reasonably achievable detection levels.

The following standardized report format should be used for submittal of the influent and effluent monitoring report. A similar structured format may be used but will be subject to Regional Board approval. The monitoring reports shall be submitted with the Semiannual Reports.

- A. **Sampling Procedures** – This section shall include a brief discussion of the sample locations, collection times, how the sample was collected (i.e., direct collection using vials or bottles, or other types of collection using devices such as automatic samplers, buckets, or beakers), types of containers used, storage procedures and holding times. Include description of prechlorination and chlorination/dechlorination practices during the sampling periods.
- B. **Method of Sampling Dechlorination** – A brief description of the sample dechlorination method prior to analysis shall be provided.

- C. Sample Compositing – The manner in which samples are composited shall be described. If the compositing procedure is different from the test method specifications, a reason for the variation shall be provided.
- D. Data Validation – All quality assurance/quality control (QA/QC) methods to be used shall be discussed and summarized. These methods include, but are not limited to, spike samples, split samples, blanks and standards. Ways in which the QA/QC data will be used to qualify the analytical test results shall be identified. A certification statement shall be submitted with this discussion stating that the laboratory QA/QC validation data has been reviewed and has met the laboratory acceptance criteria. The QA/QC validation data shall be submitted to the Regional Board upon request.
- E. A tabulation of the test results shall be provided.
- F. Discussion of Results – The report shall include a complete discussion of the test results. If any pollutants are detected in sufficient concentration to upset, interfere or pass through plant operations, the type of pollutant(s) and potential source(s) shall be noted, along with a plan of action to control, eliminate, and/or monitor the pollutant(s). Any apparent generation and/or destruction of pollutants attributable to chlorination/dechlorination sampling and analysis practices shall be noted.

## 2. Sludge Monitoring

Sludge should be sampled in the same 24-hour period during which the influent and effluent are sampled except as noted in (C) below. The same parameters required for influent and effluent analysis shall be included in the sludge analysis. The sludge analyzed shall be a composite sample of the sludge for final disposal consisting of:

- A. Sludge lagoons – 20 grab samples collected at representative equidistant intervals (grid pattern) and composited as a single grab, or
- B. Dried stockpile – 20 grab samples collected at various representative locations and depths and composited as a single grab, or
- C. Dewatered sludge- daily composite of 4 representative grab samples each day for 5 days taken at equal intervals during the daily operating shift taken from a) the dewatering units or b) from each truckload, and shall be combined into a single 5-day composite.

The U.S. EPA manual, POTW Sludge Sampling and Analysis Guidance Document, August 1989, containing detailed sampling protocols specific to sludge is recommended as a guidance for sampling procedures. The U.S. EPA manual Analytical Methods of the National Sewage Sludge Survey, September 1990, containing detailed analytical protocols specific to sludge, is recommended as a guidance for analytical methods.

In determining if the sludge is a hazardous waste, the Dischargers shall adhere to Article 2, "Criteria for Identifying the Characteristics of Hazardous Waste," and Article 3,

“Characteristics of Hazardous Waste,” of Title 22, California Code of Regulations, Sections 66261.10 to 66261.24 and all amendments thereto.

Sludge monitoring reports shall be submitted with the appropriate Semiannual Report. The following standardized report format should be used for submittal of the report. A similarly structured form may be used but will be subject to Regional Board approval.

- A. Sampling procedures – Include sample locations, collection procedures, types of containers used, storage/refrigeration methods, compositing techniques and holding times. Enclose a map of sample locations if sludge lagoons or stockpiled sludge is sampled.
- B. Data Validation – All quality assurance/quality control (QA/QC) methods to be used shall be discussed and summarized. These methods include, but are not limited to, spike samples, split samples, blanks and standards. Ways in which the QA/QC data will be used to qualify the analytical test results shall be identified. A certification statement shall be submitted with this discussion stating that the laboratory QA/QC validation data has been reviewed and has met the laboratory acceptance criteria. The QA/QC validation data shall be submitted to the Regional Board upon request.
- C. Test Results – Tabulate the test results and include the percent solids.
- D. Discussion of Results – The report shall include a complete discussion of test results. If the detected pollutant(s) is reasonably deemed to have an adverse effect on sludge disposal, a plan of action to control, eliminate, and/or monitor the pollutant(s) and the known or potential source(s) shall be included. Any apparent generation and/or destruction of pollutants attributable to chlorination/dechlorination sampling and analysis practices shall be noted.

The Discharger shall also provide any influent, effluent or sludge monitoring data for nonpriority pollutants that the permittee believes may be causing or contributing to Interference, Pass Through or adversely impacting sludge quality.